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No. 1

The Early Diagnosis and Treatment of Infantile Paralysis

C. B. FRANCISCO, M.D., Kansas City

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

Infantile paralysis is probably becoming more prevalent. Epidemics are certainly appearing more regularly and between these regular outbreaks cases are occurring more often. There are few communities that do not have a case or two each year. The disease is being feared more and more by parents who have children and as a result the lay public is becoming informed as to the necessity of early diagnosis and treatment. Therefore, the medical profession is going to be expected to keep abreast of the advancements made from time to time in the management of the disease.

In the severe case, if the child does not die from the disease, it is crippled for life. There is nothing that can be done to restore the destroyed motor nerve cells in the spinal cord and only very little can be done to compensate for the effect of this destruction. These facts should be brought home to the profession and the full realization faced that the only way to possibly prevent death and minimize permanent crippling is by early recognition of the disease and prompt action before the paralysis appears.

It is not likely that we will ever be able to prevent infantile paralysis outbreaks. Quarantine methods have failed just as they have failed in preventing outbreaks of other infectious diseases, such as measles, scarlet fever and the other common contagious affections of childhood. Every child seems to have the potential of these diseases, and under proper environments, which we do not understand, are able to develop the disease and transmit it to perfectly healthy contacts. Fortunately infantile paralysis is not as contagious as the common infections of

childhood. The inherent potential and environment determines whether or not the child or individual is to be attacked.

There has been sufficient experimental and practical work done to establish positively that convalescent serum and Rosenow's serum are of great value in infantile paralysis. It has also been as definitely established that to be of benefit in these cases they must be given before the paralysis has occurred. After the toxin has become sufficiently matured in the body to produce destruction of nerve cells it is not reasonable to assume that a small amount of immune antibodies could possibly neutralize it quickly enough to prevent this destruction. The problem, therefore, is to recognize the disease in the pre-paralytic state, and the responsibility is squarely up to the doctor. The most of us have been taught that this was not possible in any case before the onset of the paralysis, and we have been content to let it go at that. However, the truth of the matter is, that in most cases it is possible to recognize the disease in its pre-paralytic state. On account of this fact I desire to outline in a simple manner the early symptoms of this disease.

Infantile paralysis occurs in the Summer and Fall. It is characterized by sudden onset with a relatively high fever, nausea or vomiting, constipation, prostration, exaggerated reflexes, which are later absent, and it attacks perfectly well healthy normal children, usually under the age of five, and is individualized by the ever constant physical sign of stiff neck and slightly rigid spine. Such a child cannot place his chin on his chest nor can he sit up comfortably in bed and put his head between his knees. Therefore, given a case with the above history and the stiff neck and back, one is perfectly justified in diagnosing infantile paralysis. In such a case a lumbar puncture is definitely indicated and should be

done to confirm the diagnosis and in addition it is of definite therapeutic value to relieve the tension of the spinal fluid.

If the spring fluid shows an increased number of cells varying in number from twenty to two hundred, this practically proves the diagnosis. It should be remembered that the cell count of the spinal fluid should be made immediately after it is withdrawn and, if it is not possible to take the child to the microscope then the microscope should be taken to the child. However, finding the spinal fluid under slightly increased pressure is really sufficient, if it is not possible to do an immediate cell count, and it is not really necessary to do the lumbar puncture for diagnosis at all. This is the time to begin arrangements for the giving of serum and one should not wait for the onset of the paralysis to prove the diagnosis, for it is then too late to hope for benefit from the serum. The early symptoms and physical findings are no indication as to what the ultimate severity of the attack may be. There is no way to determine whether the case is going to be of the abortive, mild or severe type.

Unfortunately we have not had sufficient experience to know how much of the serum is necessary and how best to give it. Aycock and Luther, of Boston, in their report of the results of 106 cases, reported in the *J.A.M.A.*, page 387, Aug. 11, 1928, give two intraspinal injections of 15 or 20 cc. each of convalescent serum on successive days, but state that they do not know whether this is adequate or not, but their results were very favorable as compared with cases that were not given the serum. Shaw and Thelander of San Francisco, report on the intramuscular use of convalescent serum in the *J.A.M.A.* June 16, 1928, page 1923. The advantage outlined by them is that when the diagnosis is in doubt the patient can safely receive whole citrated blood, intramuscularly, if a convalescent donor is at hand and be protected at the most opportune time without being jeopardized in the least. Where they gave the convalescent serum the doses were usually about 30 cc. repeated every few hours if symptoms warranted it. It has

not been proven that the serum from recent cases is of any greater value than serum from old cases but theoretically the serum from recent cases should be of greater value. It has been definitely shown by Flexner that normal serum has no protective value.

Anticipating that the diagnosis of infantile paralysis will be made in the pre-paralytic stage the Experimental Laboratories at the University of Kansas School of Medicine, has collected a limited quantity of convalescent serum from cases that had the disease last year. It is put up in 10 cc. ampules and is available day or night at Bell Hospital. It is suggested that 10 cc. of the serum be given intravenously, followed by immediate lumbar puncture and twelve hours later another 10 cc. be given intramuscularly followed by lumbar puncture. It is suggested that this serum be requested and given only in the cases where the diagnosis is reasonably certain as the supply is limited. However, it should be remembered that the giving of the serum will do no harm and errors of diagnosis should be made on the conservative side.

Communities should, in my opinion, especially where there are laboratories, make a supply of serum and have it available during the summer and fall. Where there are no laboratories cases that have had infantile paralysis should have Wassermann tests and their consent secured to furnish either whole blood or serum in the event that a case develops in the community and the diagnosis is made in the pre-paralytic stage. Would also like to state that the Research Laboratory in charge of Dr. R. G. Haden at Bell Hospital in Kansas City, Kansas, will be glad to collect the serum from donors who have had this disease and keep it available at all times. The serum can be kept only from six to ten months, so that it will be necessary to renew the supply every year.

While I have spoken particularly of convalescent serum it should be remembered that Rosenow's serum, which is prepared from the immunized horse is of value when used before paralysis begins. It seems to be, however, the con-

sensus of opinion among the workers in this line that convalescent serum is superior to Rosenow's serum. It has the disadvantage of always producing a troublesome serum rash one week after it is given while there is practically no reaction from the convalescent serum.

Mercy Hospital, Kansas City, Missouri, has set aside one of the contagious departments for use in the treatment of early or suspected cases and also has a limited supply of convalescent serum. This should be appreciated as no general hospital is willing to accept these cases and they are not equipped to properly care for them. Any suspected or early case would be received by Mercy Hospital at any time without notice or without formality.

In conclusion I wish to emphasize the importance of keeping in mind the early symptoms of infantile paralysis and of the definite benefit that can be secured by the use of convalescent serum in the pre-paralytic state.

—————R—————

Some Suggestions Concerning the Successful Management of Appendicitis

J. N. DIETER, M.D., Abilene

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

The successful management of appendicitis demands thorough appreciation of both medical and surgical possibilities, since each case must be judged individually and treated according to the art and not by rule.

All agree it is usually a surgical disease, the question being the opportune time for operation. No greater mistake can be made in medicine than to allow the statistics of great surgical clinics to settle this problem for all men who operate.

A disease so protean in nature and sensitive to insult, permits only a very narrow deviation from set standards to duplicate results, and since undoubtedly a majority of the cases are handled under less favorable conditions, we should anticipate a marked difference in the death rate and plan our treatment accordingly.

Does the report of the Government Bureau United States Vital Statistics,

which indicates the death rate from appendicitis increased 30.9 per cent from 1900 to 1922, suggest a mode of living which makes this disease more frequent or more fatal, does it imply a deterioration in surgical technique or prove poor judgment in selecting a successful plan of treatment?

No one will deny that both diagnosis and surgery reached a plane of development in 1922 much higher than that of 1900, nor will they question that surgery was more frequently employed during the latter years. If that be true, what is the answer? More than likely a step in the wrong direction.

From 1900 to 1922 the trend of treatment was undoubtedly from conservative to radical measures. Is that the explanation? It might be well to consider that possibility, so we will refer to statistics which are always interesting, some times illuminating.

Let us consider some from the medical as well as the surgical viewpoints and attempt comparison.

Beginning with those recently given, showing the outcome of 11,000 cases treated only surgically in thirty-five representative large hospitals in America, the reported death rates varied from 6 to 16 per cent.

Reliable medical statistics seem especially difficult to obtain. I offer a series reported from St. Thomas Hospital, London, in 1895.

Two hundred sixty-four cases treated medically were studied and classified as follows:

(a) Those with peritonitis limited to right iliac fossae. 190 cases. No deaths.

(b) Peritonitis similarly located but terminating in perityphlic abscess. 38 cases. 10 deaths.

(c) Those with general peritonitis. 36 cases. 27 deaths.

Total mortality for series—14 per cent.

So much for cases treated exclusively by either method.

The following tables reflect beautifully the benefits obtained by a sensible combination of both methods.

One thousand cases so treated in the London Hospital were reported in 1913.

Of these 698 were operated during the acute attack while 302 received medical treatment and were operated during the quiescent stage.

1st. General peritonitis group. 80 cases. 16 died. Mortality—20 per cent.

2nd. Localized peritonitis with abscess. 211 cases. 7 died. Mortality—3.3 per cent.

3rd. Localized peritonitis only 123 cases. 6 died. Mortality—4.8 per cent.

4th. Inflammation limited to appendix. 284 cases. 1 died. Mortality—.3 per cent.

Total death rate for 698 treated as above, 4.3 per cent.

Completing the 1,000 case series by adding to it the 302 they elected to operate in the interval, the death rate is reduced to 3.2 per cent for the series. This reduction is attributable to careful selection of treatment and indicates more than ordinary well placed confidence in expectant measures.

The unusual thing in this series is that nearly one-third of those cases escaped operation until the interval stage.

Think of the enormous chances they took, but did they actually risk so much?

Let us commit the unpardonable sin of juggling statistics, being fair minded enough to be reasonable and see what they probably risked.

We will give Hawkins' series of 264 medical cases only the benefit of very late surgery, viz., that indicated because of abscess formation or generalized peritonitis, applying to them the same death rate as shown in similar types in the London surgical series.

The substitution in figures will be as follows: 20 per cent surgical mortality for the 36 general peritonitis cases reported medically at 75 per cent and a 33 per cent surgical mortality for 38 abscess cases reported medically at about 26 per cent. Tabulated from that standpoint, the results show as follows:

(a) Peritonitis limited to right iliac fossae. 190 cases. No deaths.

(b) Peritonitis similarly located but terminating in perithyphlic abscess. 38 cases and 3.3 per cent mortality. 7.25 deaths.

(c) General peritonitis. 36 cases and 20 per cent mortality. 7.20 deaths.

Average death rate in this hypothetical series treated by what today we would term neglected treatment 3.2 per cent.

Thus we have changed a 14 per cent medical mortality to a 3.2 per cent with only the aid of very late surgery. A 3.2 per cent mortality is not bad and has been attained by widely differing methods of treatment. It should convince one of the futility of the 48 hour operation as protection against a terrible death rate if treated otherwise.

The London series 698 cases as shown below confirms this statement. We find reported by hours:

Those operated first 24 hours, 1.2 per cent died.

Those operated second 24 hours, 3.9 per cent died.

Those operated third 24 hours, 8.7 per cent died.

The inference to be drawn from these comparisons is, that there is a time, usually about 30 hours following the initial symptoms when the average good operator will do well to think twice before operating, because of the great likelihood of converting a localized infection into a generalized one solely by his interference. Only a few hours later the master surgeon is likely to do the same thing, thereby increasing rather than decreasing the death rate. Before deciding our plan of treatment, let us refresh our minds concerning all factors which have any bearing on it.

We will discuss first its physiology and histology. If we could erase from memory that old fashioned joke of the appendix being a functionless relic of an ancestral cecum, it might cause us to study it with a bit more interest and profit. To me it seems more reasonable to accept Waller and Coles' idea that it is a specialized part of the cecum with a definite persistaltic and sphincteric action, and they add, it serves as a physiologic culture tube to furnish bacteria for colonic digestion.

Heile subscribes to this physiology in the main, except he claims the walls secrete tryptic and amyolytic ferments, also an hormone which stimulates peristalsis. In my opinion its wealth of lym-

phoid tissue rather brands it a brother to the pharyngeal tonsils and in common with all tonsils plays an important part in the early immunizing functions of the body. The pharyngeal tonsils against the bacterium common to the respiratory tract, the appendix those that naturally inhabit the bowel. Structurally these organs are ideal for the formation of bacteriophages or of activating substances. Be that as it may, we will agree it is a tube closed at one end and lined with mucous membrane. This in turn is surrounded by the submucosa and between these layers a thin band is composed of circular muscular fibers, blood vessels, glandular and lymphoid structures. Surrounding these are muscular layers. The inner one comprising one-third the thickness of the organ, is made up of circular fibers, the outer layer longitudinal fibers, all this being covered by peritoneum and surrounded by mesenteric, or other peritoneal surfaces.

This tubular organ communicates with the cecum where it discharges its contents. It is most active during early life. When infected and inflamed, it is at once beset with many problems. In the first place, the mucous membrane and glandular elements swell, their secretions are increased both tending to block a free drainage into the bowel. Inflammatory irritation produces a hypertonic vagus and a spasm and contraction of all muscle fibers which further embarrasses its lumen and subjects its blood supply and lymphatics to a pressure that predisposes to infection, gangrene and perforation. Add to this the danger of a blowout in its ulcerated and weakened wall on account of an enormous back pressure of gas in the cecum due to improperly coordinated peristalsis and contraction of abdominal muscles. This just about covers most of the influences which gives it its bad reputation.

These factors dominate the situation and are most amenable to treatment in the early days of the attack and it is during this time our mortality will be determined according to our ability to influence the varying factors.

If you are fortunate enough to be in position to operate in the thirty-hour

period, remove the appendix by all means, after this time, remember the golden opportunity for medicine looms not far off. Operate only on very special clinical indications and then operate gently, rapidly and conservatively.

As you approach the 48-hour period surgery assumes responsibility for two risks—both serious. The first the likelihood of converting a localized peritonitis into a generalized one, and second, during the intermediate stage of acute septic spreading peritonitis, you may embarrass reparative processes and lead to fatal issue.

W. J. Mayo, in 1922, says statistics show if the cause of acute peritonitis is removed within six or eight hours, and peritoneal toilet is proper, the resulting peritonitis will be slight and localized.

After twelve hours the prospects of favorable termination following removal of primary cause is greatly reduced. After 24 to 36 hours, such removal may do little to check the spread of peritonitis, and more likely lead to fatal issue. He warns against failure to recognize the difference between the stage of contamination which is an immediate result of perforation, and spreading peritonitis caused by the infection.

Deaver states, if the appendix is buried in a mass of omentum and coils of intestines, it is incapable of adding to infection.

In the event one has been fooled into opening the belly at this stage, he should content himself by carefully placing a cigarette drain to the site of the appendix and close around it, being content to remove during the interval. This necessitates two operations, an excellent life saving measure, but one not popular with the patient. I believe the appendix can be removed at the first operation with no greater death rate than in the other method, by adopting the following plan, which I have used for several years. I carefully encircle the base of the appendix with a suture of silkworm gut which is then tied tightly, another one treats the mesoappendix in the same fashion. The ends of these sutures are left long enough to allow them to lie on the surface of the belly. They are en-

cased in rubber tissue from appendix out. This serves as a drain. In about a week the appendix will slough off and come out.

It has been very gratifying to me to see how well the patient responds to this treatment. Their convalescence has been as uneventful as those operated in the first twenty-four-hour period.

I wish to warn against using either plain or chronic catgut in this ligation since they are either digested or absorbed too early and the appendix may remain viable. Only silk or silk worm gut should be used. On two or three occasions when technical difficulties forbade the ligature, I employed artery forceps for the same purpose. These were left in situ for four days, then removed. I realize the possibility of weight necrosis and intestinal fistula due to the pressure of the forceps which protrude from the belly. However, it has not occurred in my cases. Hospitalization has been lengthened only two or three days over those in which the appendix was removed and the belly was entirely closed.

It is the simplest one stage method possible and I believe is the safest one to employ in severe localized peritonitis or the frank intermediate period of septic peritonitis. A minimum of tissue handling is required, thus less danger of spreading infection. No apparent risk is assumed by leaving this tied-off, infected appendix in situ if I may judge by my own experience. This observation adds weight to the contention there is more chance of spreading infection by manipulations for removal than from extension by leaving an infected appendix complicated by localized peritonitis in the abdomen.

In severe cases one need do no more than ligate the base of the appendix, since the extensively thrombosed vessels of the mesoappendix would usually insure complete destruction of the organ.

Immediately following ligation, Ochsner's conservative treatment is employed the same as in all cases elected to be treated medically, not failing to use plenty of atropine and sufficient morphine or magnesium sulphate to render

patient comfortable until convalescence is well established.

After the first few hours in any patient when surgery is no longer indicated, Ochsner's treatment in a modified form is employed. Furnishing fluids, nourishment by rectum, relief of pain and arresting peristalsis does not meet all indications as Ochsner decided.

Any measure which will aid drainage, reduce secretion, assist the blood supply and diminish the tremendous muscular and gas tension in the appendix and large bowel, must tend to mitigate the severity of the attack and render less likely dangerous complications.

Atropine is the remedy of choice, supplemented if need be, by morphine.

You can cut off the blood supply in a finger by a tight rubber band and cause necrosis from interference with proper circulation. It is cut off in much the same manner in the appendix by intensely contracted circular muscular fibres. It is seldom that an appendix causes serious trouble if it has adequate drainage into the cecum.

Any ulcerated or gangrenous appendix is liable to burst if subjected to tremendous gas pressure or contraction on retained contents.

Any patient is liable to die in whom the contents of the small bowel are absorbed from the duodenum and stomach instead of emptying into the cecum and being carried on to the rectum.

Atropine, because of its ability to relax over contracted smooth muscle fiber, relieves the spastic pylorus, ileocecal valve and internal sphincter of the anus.

The reflex spasm initiated by peritoneal irritation which disturbs the autonomic motor ganglia of Auerbach is relieved by it and thus the normal coordinated purposeful peristaltic wave is encouraged thereby, facilitating the passage of gas and feces and reducing the tendency to meteorism, regurgitant vomiting and toxemia from disturbed intestinal function.

By the use of the remedies mentioned in connection with Ochsner's classical treatment, occasionally adding 8 m doses of 25 per cent magnesium sulphate so-

lution hypodermically t.i.d. to intensify relaxation, the results have been so uniformly successful that I have little fear or compunction about treating the disease expectantly.

Guided by this experience, I have for several years adopted this plan, usually insisting on surgery during the first 30-hour period and then only on extreme indications until after the eighth day (children excepted) or at the time of distinct localized abscess formation.

I seldom feel competent or forced to operate between these times, choosing to rely on the expectant measures outlined above—pushing all drugs to full physiological effects and continuing as indicated by symptoms to stage of recovery or elective time for surgery. Atropine is given at once, 1/75th to 1/50th gr. during the first 2 hours followed by 1/200th every 4 to 6 hours to continue effect. Never employ morphine unless forced to by pain, in that case giving to complete rest, if relaxation is not then marked magnesium sulphate is indicated.

A personal experience comprising about 30 very severe acute exacerbations of appendicitis, about one-half of which were treated by the method outlined above and in which, much to my surprise, the period of marked disability was often reduced from 7 days to 3 days, convinced me of its unusual value. There being no reliable blood or other test to accurately guide us in treatment, it is probably safer to judge solely by the clinical character which can be seen rather than according to anatomic conditions which can only be surmised.

Regardless of what treatment you adopt, remember it requires confidence and courage to carry it out, vacillation courts disaster.

Appendicitis in the young is commonly so atypical, the symptoms of any acute belly is probably appendicitis. First ruling out pneumonia, they are usually such rapid affairs, it is wise to operate on fewer indications. An abscess is liable to be well formed in 4 or 5 days. You may expect about double the death rate if patient is under 10 or over 50 years of age.

A gangrenous appendix usually pro-

duces neither pain or leucocytosis. Its next symptoms are a generalized peritonitis, especially in childhood when it is 3 or 4 times as common as in adults. The acute perforative type tends to be localized or generalized from the very start depending on the kind of bacteria and the patient's resistance.

Tumefaction tends to show quiet localization and had best be undisturbed. Let the patient either get well or form a localized abscess which can be safely drained.

If you must employ the blood count, do not take simple leucocytosis too seriously, too many things can influence it. Taken in connection with the differential count, more information is obtained. According to Soudern's hypothesis the polynuclear percentage is an index of infection, the total leucocytosis an index of body reaction and the proportional relationship an index of resistance. A rising polynuclear count being of most surgical value.

Most clinicians can interpret their clinical findings with more reliability.

Castor oil or other physic has no place in the first few days of an attack since they incite reverse peristalsis rather than assist in restoring the co-ordinated purposeful type.

A reasonable amount of soda bicarb in the fluids by rectum assists markedly in controlling acidosis and adds to the patient's resistance. I seldom find it necessary to use glucose solution except in those improperly treated in the beginning of an attack. Local anesthesia should be used far oftener than it is. In conclusion let me add, if your surgical mortality is not extremely small, around 2 per cent, it is probably because you have not taken advantage of the assistance of proper conservative measures.

—————R—————

It is stated by Baar, Vienna, that in cases of general dropsy, when in doubt as to whether it is primarily cardiac or renal, a positive blood indican test always points to the kidney as the primary factor.

Is a Physician Ever Justified in Recommending Raw Cow's Milk?

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Before attempting to answer the question, "Is a physician ever justified in recommending raw cow's milk?" it might be well to review, briefly, some of the factors, that will have a bearing on the answer.

No definite knowledge of the relationship of milk to public health was possible until evidence could be obtained of the causes of human diseases, and the source from which they came.

In the year 1857, Dr. M. W. Taylor reported the first milk-borne epidemic. It was a typhoid epidemic in the city of Penrith, England. Ten years later he reported a scarlet fever epidemic traced to milk. A few more epidemics were reported from time to time up to 1881, mostly by English observers, but these were not sufficient to attract any marked attention by the medical profession or public health authorities.

The year 1881, as suggested by Sedgwick, must be recognized a most important year in the history of milk in its relation to public health, because it was in that year that two striking events occurred. The first was a collection by Dr. E. Hart of England, of a list of milk epidemics. This list included fifty epidemics of typhoid fever, fifteen of scarlet fever, and four of diphtheria. The second was the invention by Koch of Germany of solid culture media, whereby it was easily possible to isolate pure cultures of different species.

According to Armstrong and Parren, from 1881 to 1927, 791 milk-borne epidemics have been reported. They were distributed as shown by Table 1.

In 1927, 29 epidemics were reported in the United States and Canada, as shown in Table 2.

MILK A DISEASE PRODUCER

All authorities are agreed, that the principal cause of infant deaths has been

diseases of the intestinal tract. Infant diarrhea is most prevalent among those who are artificially fed. Bovine tuberculosis is quite common among dairy cows, and we know that it is transmissible to human beings. The incubation period of tuberculosis is long, thus

TABLE 1—Recorded milk-borne outbreaks (all types) in the United States by five-year periods, Jan. 1, 1881, to Jan. 1, 1927.

Years	Outbreaks	Years	Outbreaks
1881-85	3	1911-15	238
1886-90	14	1916-20	130
1891-95	26	1921-25	130
1896-00	33	1926	12*
1901-05	60		
1906-10	145		
			Total 791

many may get their infection in the milk-drinking period of life, and then not develop the symptoms until much later.

We have had at least 42 reported epidemics of milk-borne septic sore throat, and now milk-borne undulant fever is being reported.

When we consider all the diseases for which no definite data are available, in addition to the known cases, then one must feel that milk may be a very dangerous as well as a very beneficial food.

A most recent epidemic which occurred at Lee, Massachusetts, in July of last year (1928) gives us some valuable information. Within two weeks there occurred approximately 600 cases of septic sore throat, with 36 deaths, in a population of about 4,000. Dr. Geo. H. Bigelow, State Commissioner of Public Health of Massachusetts, reports that the epidemic terminated abruptly following the enforcement of a local ordinance requiring the pasteurization of all milk. The moral, he says, is that raw milk is a very potent vehicle for the transmission of disease.

Rosenau states, "Milk-borne outbreaks of disease are always due to raw milk; often milk of good quality, even certified milk. There is no record of a milk-borne outbreak attributable to properly pasteurized milk."

The American Public Health Association has recommended, by a unanimous

*Evidently at the time this report was made, all the reports for 1926 had not come in, as reports from the American Child Association shows 69 milk-borne epidemics in the United States and Canada in 1926.

TABLE 2—Recorded milk-borne outbreaks in the United States and Canada, 1927.

Date	Disease	Place	No. Cases	No. Deaths
Nov.	Diphtheria	Pella, Iowa	9	0
Aug.	Scarlet Fever	Kalispell, Mont.	139	3
Nov.-Feb.	" "	Schuylerville, N. Y.	5	0
Jan.	" "	Janesville, Wisc.	22	0
May-June	" "	Washington Boro, N. J.	199	0
Oct.	Typhoid Fever	Medford, Ore.	45	4
July-Oct.		" "	Moriah, N. Y.	25	4
Feb.-Aug.	" "	Montreal, P. Q.	5002	533
Aug. 9-30	" "	Chatham, Ont.	108	4
May-June	" "	Lancaster Co., Pa.	10	0
Dec. 21	" "	Yellow Springs, Ohio	7	2
Sept.	" "	Riverside Boro., N. J.	9	1
Oct.-Nov.	" "	International Falls, Minn.	6	0
Aug.-Sept.	" "	Rumford, Maine	20	0
Oct.	" "	Owl's Head, Maine	6	1
Dec.	" "	Van Buren, Maine	7	1
Sept.-Oct.	" "	Hoisington, Kansas	46	1
April	" "	Hawardson, Iowa	43	3
Sept.*	" "	Fairfield, Iowa	10	1
June	" "	Cairo & Mounds, Ill.	15	1
Sept.	" "	Negeler, Ill.	14	2
Feb.-May	" "	Tempe-Mesa, Ariz.	15	4
March	" "	Napa State Hospital, Calif.	29	5
March-April	" "	Rutland, Vermont	16	3
July	Paratyphoid B	Saddle River & Hohokus Boros., N. J.	43	0
March	" "	Bridgewater, Va., Boarding School	10	0
Sept.-Oct.	Undulant Fever	Newark, New York	3†	0
March-Dec.	" "	Thruout Michigan	25	0

*Suspected milk-borne.

†Possibly 4.

vote, that all milk, including certified milk, be pasteurized.

WHY RAW MILK HAS BEEN RECOMMENDED

With such evidence before us, the question is immediately raised: "Why do so many physicians recommend raw milk?"

Personally, I believe that there are three main reasons for this. First, lack of consideration of the dangers of raw milk, or the belief that proper sanitary regulations will overcome these dangers. Second, the character of some pasteurized milk with which we have had experience. Third, the fear that pasteurization does not do all that is claimed for it, and that the food value of the milk, especially in vitamins, is greatly reduced by pasteurization.

Concerning the dangers of raw milk, I believe that sufficient data have been given to make everyone feel that there are some real dangers in it. It has been proven conclusively that proper regulations and sanitation will not overcome all these dangers.

Milk produced from clean, healthy

cows, by an intelligent dairyman, with plenty of first class equipment, is much less apt to be the cause of disease than is milk which is produced otherwise. But who can tell, when a dairyman will become a typhoid carrier; or when the hemolytic streptococci will get into the milk from the cow, or the milk handler. In the before mentioned epidemic in Lee, Massachusetts, cultures of hemolytic streptococci were obtained from one of the cows, and from a number of the milk handlers; and it was impossible to determine whether the cow infected the individuals, or the individuals infected the cow.

One likes to think that raw milk is free from tuberculosis, and that the requirement, that all cows be tubercular tested, makes the milk safe. But if one will study the test charts, that come in every six months (when the dairy inspector has carefully carried out his work and required it), then one will find that a number of cows develop tuberculosis between tests. I know of one herd from which certified milk was supplied, that

developed six tubercular cows between tests.

EFFECT OF PASTEURIZATION ON THE BACTERIA IN MILK

Undoubtedly the second reason, namely, the character of the pasteurized milk with which some of us have had experience, has been quite a factor in recommending raw milk. There is good pasteurized milk, and there is poor pasteurized milk. One must keep in mind that pasteurization is not a substitute for sanitation. Good pasteurized milk must be handled just as carefully as good raw milk. There was a time in this community, when grade B raw milk was pasteurized and then called grade A pasteurized milk, because the product after pasteurization had as low or a lower bacterial count than grade A raw milk. This is entirely wrong. The process of pasteurization does not raise the grade of milk. It can, however, make a grade B milk safe for human consumption, in fact safer than grade A raw milk; but once milk becomes grade B, it is always grade B. Grade B pasteurized milk should be perfectly safe for all uses, even the feeding of infants.

Without doubt, the most desirable milk is the best grade of raw milk, or certified milk, properly pasteurized.

Some have said that it is impossible to get good pasteurized milk. I do not agree with that statement, but if I did, I would not agree to recommend raw milk in its stead. If such a condition did, or does exist, it is not the fault of the process of pasteurization; but it is the fault of our regulations, or the enforcement of these regulations, and as physicians interested in the health of the community, we should not sit supinely by and allow our clients to drink a potentially dangerous raw milk.

I have stated that some of our milk has not been properly pasteurized. To properly pasteurize milk it must be pasteurized by the Holding method, which consists of rapidly heating the milk to 142 to 145 degrees Fahrenheit, and holding it there for 30 minutes, then promptly cooling it to at least 50 degrees Fahrenheit.

If the milk is not promptly cooled after pasteurization, it may have a bacterial count as high after pasteurization as it had before.

It has been conclusively demonstrated, that the tubercular bacilli, typhoid bacilli, diphtheria bacilli, the streptococci, and the abortus bacilli, are killed by heating milk to that temperature, and holding it there for 30 minutes. One may ask why a shorter length of time and a higher temperature is not recommended.

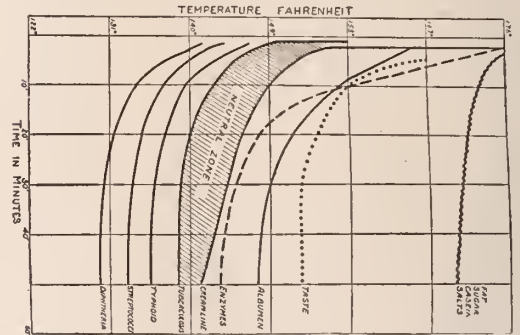


Fig. 58—Time and Temperature for Pasteurization in the neutral zone which is above the thermal death curves for the Pathogenic Micro-organisms with minimum injury to the milk.—(U. S. Pub. Health Bull., 1925, No. 147.)

Chart 1 shows nicely the neutral zone in which no appreciable changes occur. As we raise the temperature, we note that first the enzymes, then the albumen, and then the taste is affected. It will be noted that the temperature at which the taste is affected is quite a bit above the pasturizing temperature. Some insist that they do not like the taste of pasteurized milk. My answer is that they cannot tell properly pasteurized milk from raw milk. To substantiate that opinion I once had 30 medical students served with two small bottles of unlabeled milk. One bottle contained good raw milk, the other the same grade of raw milk properly pasteurized. These 30 students were only 40 per cent correct in their guesses, a percentage that was not more accurate than if the character of the samples had been determined by the flip of the coin.

It is the custom of a great many to recommend that milk for infants and sometimes adults be boiled. Just what does boiling do to milk? It produces pronounced changes. In the main these consist of a partial decomposition of the

proteins and other complex nitrogenous derivatives; diminution of the organic phosphorus, and an increase of inorganic phosphorus; precipitation of the calcium and magnesium salts, and the greater part of the phosphates; expulsion of the greater part of the carbon dioxide; caramelization, or burning of a certain portion of the milk sugar, causing the brownish color; partial disarrangement of the normal emulsion; and coalescence of some of the fat globules; coagulation of the serum albumen, which begins at 75 degrees centigrade; the ferments are killed, some of the vitamins, notably C, are affected.

Because of all these changes, one can be certain that when they recommend boiled milk they are usually defeating the very goal at which they are aiming, namely, feeding "good fresh whole cow's milk." It would be better if the attending physician feels that he can not get good pasteurized milk, that he continue to recommend the purchase of raw milk, and then the pasteurization of the milk in the home rather than the boiling of that milk. He should further protect himself by telling the family that raw milk is potentially dangerous and that if it should be boiled, or pasteurized for the infants, it should be treated likewise for the older children and the adults.

EFFECT OF PASTEURIZATION ON THE FOOD VALUE OF MILK

The third reason which I gave for many doctors recommending raw milk, namely, that the food value is affected by pasteurization, has been partially answered already, when it was shown that the process of pasteurization did not affect the enzymes, albumen, taste, salts, casein, sugar and fats; but what about the vitamins?

Milk contains but a moderate and variable amount of antiscorbutic property, namely vitamin C. The amount of this dietary factor depends upon the quantity contained in the feed of the cow. Stall-fed cows in winter furnish a milk almost devoid of antiscorbutic property. This vitamin is influenced by age, oxidation and to a certain extent, by heat. Experiments have shown that the temperature of pasteurization recommended decreased

this property in milk about one-half. In any case, cow's milk cannot be depended upon to protect children against scurvy, and they should therefore receive orange juice, or tomato juice, whether the milk is raw or pasteurized.

Milk at best has but a moderate anti-rachitic property, so-called vitamin D, which is not affected by heat. Rickets, therefore, cannot be laid at the door of pasteurization. It may readily be prevented by the use of cod-liver oil, and the benefits of sunshine.

CONTROL OF MILK-BORNE EPIDEMICS BY PASTEURIZATION

Recently Dr. William F. King, State Health Commissioner of Indiana, read a paper on the "Control of Public Milk Supplies" before the Section of Preventive and Industrial Medicine and Public Health of the American Medical Association. He states that at South Bend, Indiana, fourteen cases of undulant fever have been found. Among the dairy cattle furnishing milk to that city 40 per cent have been found infected with contagious abortion. Recently thirteen cases of undulant fever occurred among the students of Earlham College at Richmond, Indiana. As you are already aware, there have recently been some cases in Kansas City. A quotation from Dr. J. B. Berteling of South Bend, who was commenting on Doctor King's paper is worth repeating here.

"The author has the courage to plead for universal pasteurization, because of what seems to be a new disease, namely, undulant fever, perhaps wrongly called Malta fever. Why did we adopt an absolute pasteurization ordinance? Why does Doctor King plead for universal pasteurization? Primarily because in two opposite sections in Indiana, South Bend in the northwest, and Richmond in the southeast, thirty cases of so-called Malta fever occurred. Bacteriologists and clinicians have established the communicability of this disease from cattle to man through the medium of raw milk. Pasteurization destroys this organism; therefore, pasteurization should be enforced by law."

In order that I may not be misunderstood, and some draw the conclusion that

I think pasteurization is a panacea to cure all difficulties with a milk supply, let me quote from the summary by Armstrong and Parran of the United States Public Health Service.

“Ordinary raw milk, or its products, was incriminated in 179 outbreaks. ‘Pasteurized’ milk or its products was incriminated in 29 outbreaks, certified in 3, while in 356 the character of the incriminated supply was not stated.”

If pasteurization does all that I have claimed for it, how do I account for those 29 outbreaks attributed to pasteurized milk. Let me again quote Armstrong and Parran.

“Among 29 outbreaks, which are reported to have followed the use of ‘pasteurized’ supplies (milk or ice cream), there were 12 outbreaks in which the evidence pointed to infection of the milk

fever sold milk to three neighbors, all of whom developed the disease. The same milk was shipped to Chicago, where it was pasteurized, and no cases are known to have resulted (1921). In an outbreak at Richmond, Calif., in 1915, 12 cases occurred on a route selling 90 gallons of milk daily. During this same time this dairy shipped 600 gallons daily to Berkeley, where it was pasteurized, and no typhoid occurred.”

“Similar examples of part of an infected supply being rendered harmless through pasteurization are noted in outbreaks at St. Charles Township, Kane County, Ill., 1921, in central New York state, 1922, and at Denver, Colo., 1926.”

Neither Kansas City, Missouri, nor Kansas City, Kansas, has an infant mortality rate of which it can be proud. (See Table No. 3).

TABLE 3—Infant Mortality in 4 U. S. Cities
1915-1927

City	Infant deaths per 1,000 live births												
	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27
New York City..	99	93	89	92	81	85	72	75	67	68	65	68	56
Chicago.	**	**	**	**	**	**	89*	84	87	77	75	67	63
Kan. City, Kan..	**	**	112	136	108	108	71	90	97	94	88	84	75
Kan. City, Mo..	**	**	105*	113*	102*	117*	94*	100*	92*	88*	88*	65*	70

**Not in the Birth Reg. Area.

*Rates from State Authorities; not in Birth Reg. Area.

Data compiled by American Child Health Assn. Div. of Research.
From: Birth, Stillbirth and Infant Mortality Statistics 1920-1924. Department of Commerce, and Statistical Report of Infant Mortality, American Child Health Assn.

subsequent to pasteurization: in three outbreaks a possible substitution of raw milk could not be ruled out; and in three others, there was evidence that the heating was not to the specified degree. In two outbreaks the so-called pasteurization consisted in heating the milk in a starter can. In one outbreak the equipment was described as obviously faulty. Of the remaining eight outbreaks, one followed the flash method, while in seven either the method of pasteurization or the source of infection was not stated.”

“That proper pasteurization of infected milk does prevent infection has been indicated in a number of instances in connection with the study of milk-borne outbreaks. A family in a northern county of Illinois with four cases of typhoid

When we realize that New York City and Chicago with their crowded poorly lighted, and poorly ventilated tenement districts, and other unfavorable conditions for raising babies, can enjoy an infant mortality rate for the last 10 years, that has been much less than ours, then we must feel that something is wrong. And when we study New York's situation, and find that the infant mortality rate there before the advent of pasteurization was much higher than now, then we must accept pasteurization as an important factor in the reduction of that community's infant death rate. Certainly other factors have helped reduce New York's infant mortality rate, but those who have had intimate contact with the situation, feel that pasteurization has

been an important factor in that reduction.

In regard to Chicago, let me quote from Chicago's Health Preliminary Annual Report, Department of Health, 1927, Feb. 7, 1928.

"It is gratifying to note that no milk-borne outbreak of communicable disease has occurred in Chicago since 1916, when the ordinance was first strictly enforced requiring all milk, except certified, to be pasteurized."

PASTEURIZATION IN THE HOME

I have mentioned that if one feels that they can not purchase the proper kind of pasteurized milk they should purchase the best quality of raw milk, and then pasteurize it in the home. In order to show how simply that can be done, I want to show a drawing of a Strauss Home Pasteurizer. (See Chart No. 2). This pasteurizer was introduced by Nathan Strauss of New York City, and beyond doubt is of great value, when small quantities of milk are to be pasteurized. The technique to be followed is simple, and may be described as follows:

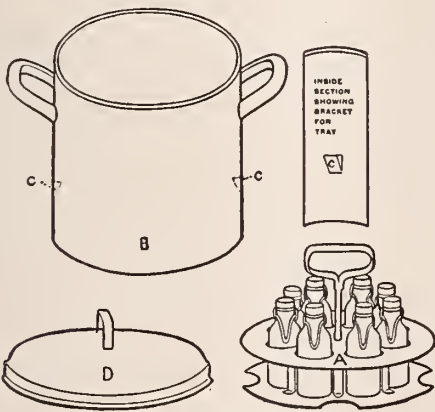


FIG. 59.—STRAUS HOME PASTEURIZER.

After the bottles have been thoroughly cleaned, they are placed in the tray (A) and filled with the milk or mixture used for one feeding. Then the corks or patented stoppers are put on without fastening them tightly.

The pot (B) is now placed on the wooden surface of the table or floor, and filled to the supports (C) with boiling water. Place the tray (A) with filled bottles into the pot (B) so that the bot-

tom of the tray rests on the supports (C) and then put cover (D) on quickly.

After the bottles have been warmed up by the steam for five minutes, the tray is turned and the bottles immersed in the hot water, replace the cover immediately. This manipulation is to be made as rapidly as possible to avoid loss of heat. Thus it remains for thirty minutes.

Now take the tray out of the water and fasten the corks or stoppers airtight. Cool the bottles with cold water, and ice as quickly as possible, and keep them at a low temperature until used.

While I do not consider this process quite as satisfactory as commercial pasteurization, still experience has shown that it can be done successfully, and the milk is much safer than if it had been used raw.

Pasteurization is becoming more popular throughout the country. A report by Bigelow and Forsbeck giving data from cities and towns in the United States shows that in 1927, 83 per cent of the milk in 44 cities was being pasteurized, as compared with 74 per cent in 1923, and 34 per cent in 1919.

It also shows that only one-half of one per cent of the milk is certified.

Certainly from a practical and financial point of view, we never will be able to get the entire milk supply in a condition that would qualify it as certified, then the only answer must be pasteurization.

CONCLUSION

From the data collected and studied, I believe physicians are not justified in recommending the consumption of raw milk.

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Skin and Mucous Membrane Manifestations of Late and Latent Syphilis

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Read before the Sedgwick County Medical Society May 21, 1929.

The skin manifestations of late and latent syphilis are many and varied. The disease now has become less active and the cutaneous symptoms more destructive than the florid secondary eruptive period when the disseminate distribution is of a non-destructive character. These are generally referred to as recurrences rather than typical "late" lesions. The long standing untreated or insufficiently treated case presents a different group of symptoms; as time elapses, the lesions become more isolated or solitary and more destructive in nature. In the pathology of these lesions one sees the granuloma of syphilis most typically portrayed—the giant cells—the lymphocytic infiltration, some epithelioid and fibroblastic proliferation, peripheral obliterative endarteritis of the fine capillaries and arterioles, and softening and necrosis. In the earlier stages the profuse round-cell infiltration may suggest sarcoma. In the fully developed granuloma the picture may suggest, very strongly, tuberculosis.

The generally accepted rule that the secondary syphilides involute without leaving a trace of their presence has very definite exceptions in the atrophic and pigmentary residue. These being the most destructive of the latent period. The chief source of the residual changes is the large papular syphilide which often leaves on involution, a faint depression or macular atrophy at the site of the papular lesion, and when the atrophy fails to develop tends to leave a spot of depigmentation. The favorite site for the macular depigmentation is the side of the neck, the macular atrophy on the back and flanks. The former is called "syphilitic leukoderma" and is a highly characteristic lesion generally presented on the neck and shoulders. The best imitation of it is produced by the pigmentation accompanying the involution of an extensive psoriasis that has been treated with arsenic. But the macular spotting of the true syphilitic leukoderma is in contra-distinction to the patchy affairs of fawns and brown.

The classification of the lesions of the late syphilides that I like best divides the various lesions into the nodular non-ulcerative, noduloulcerative, and gumma. When involution takes place in the nodular lesion it generally does not leave a trace though at times it leaves atrophy and pigmentation. The nodulo-ulcerative type will present the nodular infiltration accompanied by ulceration. At times they do not appear to be ulcerated but scaly or crusted, though on removal of the crust a punched-out ulcer is found. The ulceration will vary in extent and destructiveness in each lesion. Gumma develops as a cutaneous or subcutaneous tumor. At first pinkish, then red and soon a dark bluish tinge. General softening occurs or an ulcer develops in the center, rapidly spreading to the margins, discharging large quantities of grumous pus. Sometimes they involute without breaking down. Engman believes the physical characteristics are distinctive enough that one should be able to diagnose them with or without the aid of the Wassermann reaction. Stokes states that you should diagnose with these physical signs even in the presence of a negative

Wassermann reaction. All the granulomatous processes in the skin share some of these characteristics, but the most important combination is induration with arciform or polycyclic configuration. The indurated arc or scalloped chain should arouse suspicion. This arrangement of papules or ulcers and atrophic scars should receive careful consideration. The syphilitic ulcer in healing leaves an atrophic non-contractile scar. The ulcer located on the upper and outer aspect of the leg is more commonly syphilitic while those on the lower and inner aspect are more apt to be due to vascular stasis. The ulcers on the calves especially in women are more apt to be tuberculous and leave disfiguration on healing. The tubercular ulcer will be undermined at the edge—the syphilitic ulcer punched out. The therapeutic test, the administration of arsphenamin, is unreliable as these ulcers will all respond to this drug. If you feel the need of a therapeutic test mercury alone should be used.

Some of the more common skin conditions that have to be differentiated are psoriasis and seborrheic dermatitis. Some of the chief differential points are: Psoriasis is rare on the face although common in the scalp. Seborrheic dermatitis is common on both scalp and face although it is more greasy and oily, while syphilitic lesions are common on the face. The syphilitic lesions are indurated whereas the others are not and they spread with peripheral extension. Another point is that the syphilitic lesions have the central atrophy. The psoriasis and seborrheic dermatitis are very scaly with typical distribution, quite commonly bleeding on the removal of the scales. In syphilis there is no bleeding and extremely few, if any scales, without bleeding when scraped off.

Ringworm is often confused with late syphilis. But the ringworm fungus can be found by maceration of the scales in 10 per cent—20 per cent sodium hydroxide—again the induration of syphilis being absent and the vesicles present in the ringworm will aid materially with the blood Wassermann reaction in making your differential diagnosis.

Some of the most difficult problems are in the diagnosis of the late syphilides of the palms and plantar surfaces. It is seldom there is any ulceration. You have to depend mostly on the configuration, induration and atrophy. The border of the palmar lesion is very noticeably indurated, can be easily palpated, having a cord-like feel to the palpating finger as you run your finger over the edge of the lesion, generally brown-like in appearance. The lesion presents the atrophic appearance—the well side showing the velvety rubbery texture of healthy skin while the lesion has the appearance of old skin—wrinkled, flaccid, atrophic, the skin of an old person giving the appearance of a difference of twenty years. These lesions are unilateral, seldom involve the back of the hands or feet, do not fissure or have vesicles. It is always well to examine the entire skin for other evidences. It is not uncommon that the blood Wassermann reaction is negative and that you have to do the “provocative.” It is not impossible that this test be negative and that the lesion will “flare up” during the first twenty-four hours after the administration of arsphenamin and then rapidly disappear, this constitutes the therapeutic test and should be considered positive. In diagnosing these palmar lesions as being syphilitic you should be actuated by:

- 1—Induration, bordering the lesions.
- 2—The margin being circular.
- 3—Slight but very definite central atrophy, with no scaling and no organisms in the scales.
- 4—No vesicles either at the margin or central portion of the lesion.
- 5—Very definite line of demarcation.
- 6—Blood Wassermann reaction.
- 7—The family history—no pregnancies—or one or more spontaneous miscarriages.
- 8—As a last resort the provocative test and simultaneously the therapeutic test—local flare up.

LESIONS OF MUCOUS MEMBRANES OF THE MOUTH

There are several types of lesions of the mouth you are forced to consider. The most common that will be discussed are the syphilides of the lips which

should fall into the following classification:

1—The nodular and nodulo-ulcerative type.

2—The solitary and diffused non-ulcerative gumma. Also the lesions of the mucous membranes of the mouth, the most common being leukoplakia, carcinoma and the tubercular ulcers. Of these leukoplakia is the most common condition met with. There is one type of leukoplakia that is not considered in this discussion, it is of a thick, rough, sharply defined silvery-gray patch, though any and all leukoplakia should arouse a strong suspicion of syphilis. The leukoplakia most commonly confused with syphilis are the patches on the lip, just in the angle of the mouth and buccal mucous membrane. These lesions do not have the thickened base or the rough, sharply defined borders, but are more indefinite in their outline.

Irritation from bad teeth or tobacco in a syphilitic is prone to produce leukoplakia; a leukoplakial patch that is ulcerative is probably already malignant. It is important to remember that the lesions do not completely involute prior to malignant degeneration. Metastasis is very early from lesions of the mouth. A pathological examination of a section from all lesions prior to treatment even though the Wassermann reaction is positive should be done. In addition to the leukoplakia you have the tubercular ulcers in the mouth that can cause you lots of trouble in making the differential diagnosis but they are more ragged, will have minute tubercles at the highly inflamed margin, and the morphology is different, the arciform configuration being absent.

In diagnosing your early carcinomas it is well to examine the teeth for sources of irritation, examine the border of the lesion carefully for a pearly rolled edge as this is generally the way it is found in the early lesion. Examining the glands as metastasis is very early in carcinomatous lesions of the mouth, never omitting the pathological examination of a section.

In any lesion that has a rolled border, regardless of the configuration, you

should suspect carcinoma, and lesions on the tongue should always be considered epithelioma until they have been proven otherwise. Should it be necessary to resort to the therapeutic test in making your diagnosis arsphenamin is acceptable as it does not effect an epithelioma. It may be well to state that some authorities question the advisability of taking specimens for microscopic examination on account of the flare-up that so often follows molesting these lesions.

There is so much more that might be said that has not been that I feel that I have hardly touched the subject. But in conclusion will add that there are a few points to remember:

1—Indolency of the lesion.

2—Induration infiltration of subcutaneous and connective tissue.

3—Configuration, arciform lesions, either single or multiple.

4—Margination, with peripheral hyperpigmentation and central healing leaving non-contractile scar.

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Physiotherapy

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Read before the Montgomery County Medical Society, March 22, 1929.

Physiotherapy as you all know is treatment for disease by physical means, in contradistinction to treatment by drugs, serotherapy, etc.

The chiropractor and osteopath are physiotherapists. They treat disease by physical means only, their hands, vibrators, colored lights, etc. Your fifth lumbar vertebra becomes dislocated and out of line and by a clever manipulation of his thumbs he speedily readjusts it and you are well again (?) Much in physiotherapy is of course plain quackery used for the purpose only of fooling the public. However, there is also much of physiotherapy that leading men now have accepted as being very valuable and filling a place in any practitioner's program. You are all acquainted with the x-ray of course and its uses. I shall not talk of this. Rather I'll say a few things of high frequency and the ultra violet ray generators. Aside from the x-ray these two phases are the most important in physiotherapy; all others are second-

ary. The high frequency current is one in which the frequency of oscillations is measured in hundreds of thousands or millions per second. (The common alternating current is a 60 cycle current.) At such a frequency of oscillations the human tissues cease to respond to each impulse and this point is somewhere above 30,000 per second. The high frequency current is therefore an electrical current of such high rate of oscillations that living tissues do not attempt to contract under each impulse. Therefore the passage of this current through tissue is painless, non traumatic and beneficial for a wide range of indications, whereas a like volume of current of low frequency would be extremely painful, traumatize muscles and fracture bones. In fact it would be deadly.

The ordinary 110 volt current is put through a step transformer of which there are several types and the high frequency current is produced. The most important use of this high frequency is for diathermy treatments. This is conversive heat. Energy transformed into heat in the body itself. Its proper use demands a knowledge of the physics involved, which is very exacting. Many things must be taken into consideration for each special treatment, whether direct or indirect diathermy is to be used, preparation of skin, proper electrodes, timing of treatment, calculating the dosage, knowledge of indications and contraindications, etc. A very large majority of diathermy treatments are used for the sedative, absorptive and germicidal effects. Treatments are usually 20 to 45 minutes, or even longer in rare instances. As you may know the smaller electrode is used where the greatest density of current is desired and the other placed at the proper place to serve as a "ground."

It is indicated where any intense arterial hyperemia is desired as in muscle contractures following trauma to the nerve, where atrophy is to be arrested—chronic fibrosed joints which it is practically impossible to aid without diathermy.

Fractures repair in one-third less the time ordinarily required, when diathermy

is used. The relief following the first treatment in an acute cystitis, prostatitis, epididymitis or orchitis is so great that all other methods of treatment or procedures for treating these conditions seem still more inadequate than they really are. Other methods of treating these conditions aside from diathermy are as you all know notably ineffectual. Pus with drainage is a good indication for diathermy. Angina pectoris is almost instantly relieved and if continually treated the attacks are cut down both in frequency and severity.

The use of diathermy in beginning pneumonia is followed by such sudden relief of symptoms and changes in the clinical picture presented that about the only criticism given by physicians seeing it properly used in the early stages is that the cases were not typical pneumonia cases any how. This is correct. They were not typical pneumonia cases because typical pneumonia is almost impossible where early diathermy is used.

Sedative diathermy is here used. Much discredit has been placed on the so-called electric treatment of pneumonia as well as for all other things. This is justified and the fault is in improper technic and worthless diathermy apparatus. This conversive heat is produced in the tissues through which it passes. An electrode at the front and back of the diseased lung and sedative diathermy applied once or twice a day is much more efficient and effective than jackets, poultices, etc. I have used the diathermy in two cases of pneumonia, both had bad hearts, were cyanotic and looked bad. However, both are well. I have personally not had the opportunity to use it much in pneumonia, mostly because it is so inconvenient to give in the homes.

Neuralgias are as a rule promptly relieved. I have found my greatest use of diathermy in treating neuralgias, especially lumbar neuritis and myositis. In fact I hardly would feel competent to treat these conditions without diathermy. It is not at all uncommon to have the patient "lumped" over to one side, unable to straighten his lumbar spine, get on the table, take the 45 minute treatment and get up and straighten himself

and declare himself almost well. Where the neuritis is rather localized so the treatment reaches it very direct the results are much better.

Here is an agent that will reduce blood pressure at once. Sedative diathermy, 300 or 400 milliamperes for 30 minutes each day, will reduce the blood pressure 20 or 40 points in the first week as a rule. After this first reduction in blood pressure we find that the following treatments average 2 or 3 points each. When the blood pressure has run below 200 it can usually be brought back to normal with a course of treatment. At the same time of course all that can be done for the kidney and heart by drug therapy must be done. After a few weeks of treatment the blood pressure is pretty well lowered, in fact about as far as auto-condensation can do it. An occasional treatment here usually controls it. These results, however, can not be expected very often when the blood pressure has reached 250 or 300 mm. However, even in these very severe cases the results are often striking.

Prostate disease and seminal vesiculitis. Here is another condition I should feel quite incompetent to treat without diathermy. As you all know the generally accepted treatment is serum, massage and finally surgery. Removal of the large swollen vesicle. This is unnecessary when the diathermy current is passed through the vesicle a few times. Enough elevation of temperature can be put to the gland to kill all gonococci very quickly and the vesicles in practically all cases soon return to normal and function properly again.

Much experimental work is going on, finding new uses for diathermy. Many use it in nephritis and treat the kidneys directly, also catarrhal cholangitis is said to respond very strikingly to diathermy. I have not tried it. However, as a rule any pathological condition where passive congestion and arterial engorgement is wanted and the circulation efficiency trebled, one can use diathermy in preference to any other measure. I have not taken up surgical diathermy or electro-coagulation. On certain selected cases needing tonsillectomy

where surgery is contraindicated the tonsils can be safely conglutated. I have done this only a few times and as I said before only when surgery is contraindicated. This is, however, another important use for diathermy. Bloodless surgery is very simple where one pole of this high frequency machine is connected with the scalpel and the foot switch used as needed. All bleeding points are quickly stopped—seared over—and are sterile. Ulcers of the cervix, where lacerations are not the cause, will heal usually after one light coagulation which is painless. Epitheliomas on the body almost anywhere are nicely coagulated and left to dry or slough off. This is usually the end of it providing the coagulation is thorough enough of course. I have coagulated external hemorrhoids painlessly and the results were all one could expect. No delay from work while healing. Many other indications and uses may be found and developed, things which heretofore were out of our reach and gave the chiros part of our business. These can be ethically treated now with physiotherapy.

CONTRAINDICATIONS

Two general rules: 1. Where there is a liability to start a hemorrhage. 2. Where there is a liability to cause toxic absorption *i.e.* pus without drainage, in empyema, for instance, diathermy before drainage almost certainly sets up a septicemia and metastatic abscesses. However, empyema with drainage is usually quickly sterilized with diathermy. The effects of diathermy do not in the least depend upon any element of suggestion. They are positive physical effects. The next important phase in physiotherapy in my estimation is the actinic or ultra violet ray.

THE ACTINIC OR ULTRA VIOLET RAY

This has as you realize come to the front in the past few years so that it seems useless to say much of it. This ray lies just beyond the violet ray of the visible spectrum. It is an invisible ray and when a mercury quartz burner is lighted it is not the ultra violet ray that you see but a mixture of visible and non active rays. It is determined and classified by its wave length. We have the

mercury quartz burners today which are transparent to all wave lengths of the actinic ray and the more effective short waves are transmitted through it without interruption. These tend to produce leucocytosis. The action of the ultra violet ray is manifested both locally and generally, locally by varying degrees of erythema and generally by various blood chemistry reactions which are decidedly beneficial. Since I have the ultra violet ray generator I feel that I can cure practically all skin affections that otherwise would be quite difficult to handle. One or two large doses causing decided erythema will invariably dry up eczema and cause the epidermis to scale off, leaving healthy skin underneath. Thus far the local reactions are used mostly for skin troubles and also it is being used by some in eye, ear, nose and throat work.

The general actions I'll discuss briefly: As before stated one of the things caused by actinotherapy is leucocytosis. This is beneficial in any pathological condition where one's resistance is to be raised. Care in its use must of course be used and a knowledge of its effects. In pulmonary tuberculosis while in the febrile state we hesitate very much to use it. However, in surgical and intestinal tuberculosis it is quite specific.

Rickets as you know is a disease due to shortage of fat soluble vitamin "D" found in butter, codliver oil and the ultra violet ray. Rickets readily responds to this simple, convenient method of treatment. It is getting to be quite customary to ray the babies during the dark months of the year. Thus for rickets the actinic ray is quite a specific. The percentage of ultra violet rays in the solar spectrum is 2 per cent, while that of the mercury quartz arc is 33 per cent. Therefore this is about 16 times more effective than heliotherapy. In conditions in which there exists a calcium deficiency, as in spasmophilia or tetany, again we find the ultra violet ray a specific: Summarizing we find that as a specific the ultra violet ray cures:

1. Rickets and tetany—deficiency diseases.
2. Surgical tuberculosis—bone, intesti-

nal, glandular or peritoneal.

3. Dermatoses. This includes 25 different skin diseases.

4. Secondary anemias.

As an adjuvant to other treatment it has a much wider field, which is too large to be covered in this paper. It may be of interest to note a few things which have retarded the development of electrical therapeutics in the past.

1. That the effects of electricity were mainly psychological.

2. Misleading statements in some modern textbooks, probably copied from old works.

3. Lack of teaching in medical schools.

4. The prejudice against electrotherapeutics, due to irregular practice, inexperienced practitioners.

5. Lack of proper standardization of electrotherapeutic apparatus.

However, these unfortunate conditions are being "ironed out," many schools have already added this to their course of study and much post-graduate work is done each year so that physicians may acquaint themselves with this most valuable phase of medicine.

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An Unusual Case of Acute Lymphatic Leukemia

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Acute lymphatic leukemia not infrequently offers considerable diagnostic difficulty, as these cases are found to vary quite generally in the course of their development.

Resembling an acute infectious process from the start, this progressively fatal disease is usually ushered in by a sudden onset with a high temperature, extreme prostration, an anemia that increases rapidly—with a tendency to hemorrhages, and a typical overwhelming predominance of lymphocytic cells in the differential leukocyte count.

A case was recently under observation that was quite unusual in its onset and ran a confusing clinical course.

CASE REPORT

J. P., a school boy, age 13 years, was admitted to Bell Memorial Hospital De-

ember 27, 1928, complaining of a lump in his chest, some shortness of breath and intermittent attacks of pain located deeply within his chest.

He gave a history of having had influenza one month prior to his admittance, with a past history and family history otherwise essentially negative. At the time of his illness, a bulging on the anterior chest wall was noted and barely perceptible. The bulging increased rapidly in size until he came to the hospital.

The physical examination on admission revealed a fairly well nourished boy without any temperature and ambulatory. There was noted a definite pallor to his skin. His tonsils had been removed. The chest was bulging anteriorly over the upper one-half of the sternum and this was externally most prominent in the region of the third interspace to the left of the sternum. Here, the protrusion resembled an inverted tea cup 4 cms. in depth with an approximate diameter of 5 cms.



Fig. 1. Picture of patient on admission, note swelling to left of sternum.

On percussion the sternal dullness was increased to the right and left about 2½

cms., over which dullness no breath sounds were auscultated and a mediastinal mass was assumed to occupy this region.

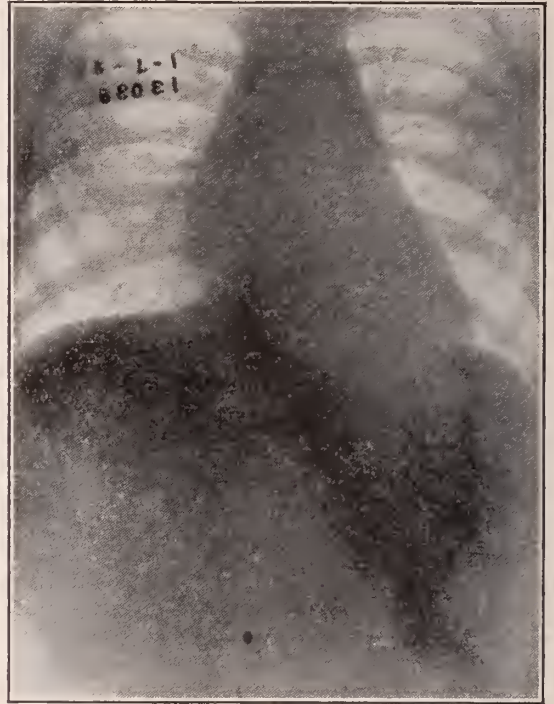


Fig. 2. x-Ray picture of chest, large mediastinal mass.

The cardiac dullness was found definitely displaced to the left. No regional adenopathies were palpable.

The urine examination was negative. The red cell count was 3,610,000, white cell count 8,500 and hemoglobin 65 per cent. The x-ray department's diagnosis was: a "Mediastinal Neoplasm," probably Hodgkin's Disease.

Two x-ray treatments were given over the mass in five day's time. One-half an erythema dose through 4 mm. of aluminum filter was the dosage administered, with a complete disappearance of the mass externally and a marked reduction in the size within the mediastinum. A third treatment was given before his dismissal, January 13, 1929, and he was dismissed symptom free as regarded his complaints. The x-ray also showed complete disappearance of the mediastinal mass.

Second Admission. Thirteen days following this, he was again admitted, complaining of bulging in the right costal

margin in the axillary line, with some dyspnea and pain on deep breathing.

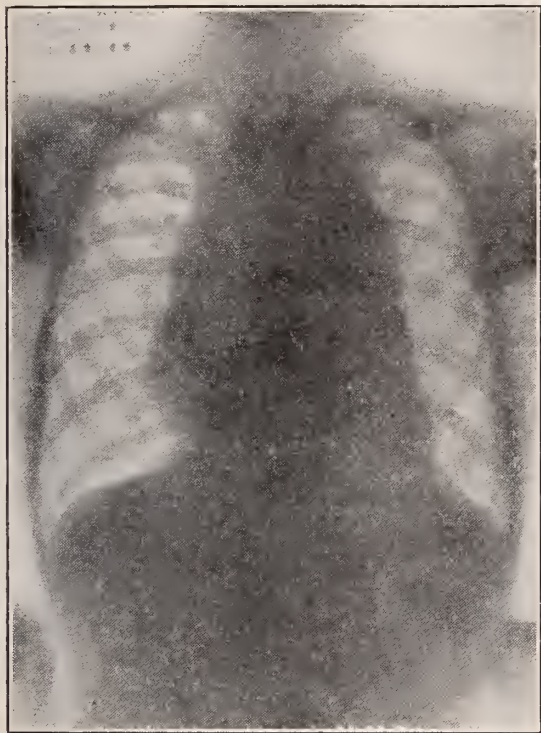


Fig. 3. x-Ray picture of chest following treatment.

There was an enlarged gland in each axilla. The skin pallor appeared the same. The liver was now palpable 3 cm. below the costal margin. An x-ray picture at this time revealed no recurrence of the mediastinal mass, but a little pleural thickening was noted at the right and left costal margins in the axillary line.

The urine contained albumin 1 plus and an occasional pus cell, while the red blood cells were 4,050,000, hemoglobin 74 per cent and leukocytes numbered 9,900.

One of the enlarged axillary glands was excised and the pathological diagnosis was lymphatic leukemia.

The next few days, the liver increased rapidly in size, reaching 3 cms. below the right costal margin, and the spleen became definitely palpable. In ten days time, other axillary, as well as inguinal, epitrochlear and cervical lymph glands became definitely palpable and continued to increase slowly in size. On the twenty-first day after his second admission, he began to bleed from the nose and gums, as well as vomit blood and showed blood

in his stools. His urine at this time was brick red in color, containing an enormous number of red blood cells and many lymphocytes in a stained specimen. The blood examination showed: red blood cells 3,250,000, hemoglobin 60 per cent and leukocytes 98,450, with 96 per cent lymphocytic cells.

He continued to bleed from all mucosal surfaces, but to a lesser degree. His

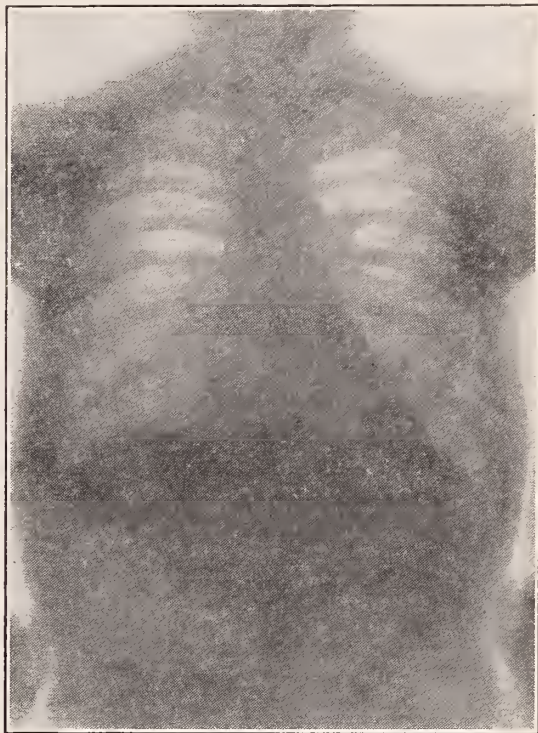


Fig. 4. x-Ray picture of chest on readmission.

weakness became extreme and a blood culture previously taken was reported negative. Numerous rales appeared in the right lower chest, with a loss of breath sounds below this level, with a diagnosis of fluid resulting. Numerous petechial hemorrhages were now noted all over the skin.

February 26 he had ceased bleeding from the nose, gums and mouth and there was a marked degree of blood in the urine. He was extremely exsanguinated and grew moribund. The red cells were now 1,400,000, the hemoglobin 27 per cent and leukocytes 86,000, with 80 per cent lymphocytes. He died apparently in a state of gradually increasing exhaustion.

The autopsy revealed the following anatomical diagnosis:

1. Acute lymphoid leukemia with infiltration into the heart, lungs, liver, spleen, kidneys, mediastinum and parietal pleura.

2. Petechial hemorrhages in the subcutaneous, subserous and submucosal surfaces.

3. Acute fibrinous pleurisy with hemorrhagic effusion into right pleural cavity.

4. Acute hemorrhagic nephritis.

5. Parenchymatous degeneration of the heart and liver.

COMMENT

The most interesting features of this case were, the large swelling and mass in the mediastinum (that was at first considered Hodgkin's disease) and the striking manner in which this bulging mass melted away under *x-ray* therapy.

The case later developed the typical picture of an acute lymphatic leukemia and ran a typical course.

The acute nephritis was unusual and the large amount of urinary blood was also a striking feature.

A case manifesting a posterior mediastinal mass with a delayed typical acute lymphatic leukemia picture was described by Dr. W. E. Fallis in the *Kentucky Medical Journal*, April, 1928. His case, however, stressed the symptoms produced by the mass pressing on the superior vena cava, necessitating frequent thoracentesis of the right chest to relieve the patient of dyspnea—his outstanding early symptom.

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TUBERCULOSIS ABSTRACTS

Modern plans for curbing the spread of tuberculosis consist of a combination of medical and social measures, which aim (a) to prevent infection and (b) to inhibit the development of actual disease, once infection has taken place. The techniques employed for achieving these aims vary in actual practice according to the viewpoints of the several workers and the peculiar situations of their communities. W. Bolton Tomson, M.D., in a recent book, "Some Methods for the Prevention of Tuberculosis," describes several outstanding measures employed in European countries, which illustrate various emphases on details of method.

FRANCE

Professor Grancher realized the possibilities of separating the newborn from its tuberculous mother, and, as the result of his labor, the *Œuvre Grancher*, a society for protecting children against tuberculosis, was established in 1903 and received governmental endorsement two years later. It arranges "for children from three to ten years of age who are not infectious to be placed out in country districts, where they are educated and stay until they are thirteen years of age." Over 2,500 children have been cared for, and during a period of over 17 years only 7 cases of tuberculosis were registered. The average cost per child is about one-sixth the cost of healing a tuberculosis patient in a sanatorium.

Another society, the *Placement Familial des Tout-Petits*, deals with children from birth. The newborn is isolated temporarily in a *creche*, or baby ward, for observation, then cared for at a Maternity Clinic for about three years, after which he is boarded out in a peasant family free from tuberculosis. Separation between mother and child is complete, excepting in rare instances where breast feeding seems essential. The mother is induced to give up her baby by kindly persuasion, but the surrender must be complete for a period of not less

than two years. Parents may make four visits to the child during the year. The foster parents are supplied with the infant's clothing, a cradle and a perambulator. They are bound by definite rules to care for the child as specified by the association and to bring the child periodically to the Centre for observation. The 1927 report of this society states



In the United States, preventoria provide protection for tuberculous children.

that of the 434 children dealt with, there were 19 deaths, only one of which was due to tuberculosis.

BELGIUM

The Belgian National League against Tuberculosis operates on principles similar to those employed in France. It receives financial aid from the government, municipalities, private donations, fetes, etc., and allots grants to its several branches on a per day, per child scale. Out of 3,000 children dealt with, only one has died from tuberculosis. As in France, many of the children placed in foster homes decide to remain in the locality of their adoption on reaching maturity.

SWITZERLAND

In Switzerland, the emphasis is on sanatoria and on preventoria. A federal subsidy helps to finance the plan of placing children in preventoria, and allotments are made to the institutions on a per child, per day basis. The results appear to be not so glowing as those reported from France and Belgium. For example, a study was made (terminating in 1923) of 323 patients from 3 to 25

years of age who had been inmates of the Sanatorium de Wald at Zurich:

Of 195 cases of mild severity, 8.7 per cent had died.

Of 31 cases of medium severity, 42.0 per cent had died.

Of 97 cases with severe lesions, 85.5 per cent had died.

Deep-rooted tradition, misplaced parental affection, and the absence of compulsory laws are said to make it difficult to secure proper care for children of tuberculous parents before it is too late. Recently, however, most people are realizing the significance of Grancher's principle, and the demand for preventorium care is rapidly increasing.

NORWAY

A Tuberculosis Act, passed in 1900, makes the notification of all cases compulsory. The doctor in charge is obligated to instruct the patient and to enforce the recommended precautions. If the patient is recalcitrant, he may be sent to a "Home for Consumptives," which is done particularly in cases where children are endangered, though the law does not yet permit the forcible separation of husband from wife. Each town and parish has its Tuberculosis Committee, responsible to a Central Tuberculosis Committee for the whole kingdom. Poor children of tuberculous parents are also placed in homes and institutions, in which case two-fifths of the cost is borne by the state, while the county and town in which they live bear the remainder. When the Tuberculosis Act was first enacted, no institution existed for isolating adult cases. The Norwegian Women's Health Association then collected funds and established, in 1903, a "Nursing Home for Tuberculosis" near Oslo, which has been followed by the establishment of 100 similar homes with a total of about 2,000 beds. Also, a special Home was opened for infants of tuberculous families, many of whom are received at birth. This is, in effect, the Grancher system, except that children are institutionalized instead of placed in private homes. Other devices, such as open air schools as we know them, are also in use. At present, an effort is being made to improve housing conditions

for, as the author says, the infection may be *minimized by dilution* to those who live in daily contact with an infecting agent.

SWEDEN

The system in Sweden is essentially like that of Norway. An excellent demonstration was recently completed. It



Model cottages occupied by ex-patients employed by Papworth Industries.

began in 1904 in a poor district of medium size, situated in a remote spot inhabited by a comparatively stationary population and infested with tuberculosis. Surrounding districts of similar types served as controls. The demonstration centered around a building serving as general headquarters, as well as a Cottage Hospital and Children's Home. In the twenty years' period, tuberculosis morbidity was reduced 33 per cent and the mortality 28 per cent, whereas practically no reductions were noted in morbidity or mortality in the control areas.

ENGLAND

In England, prominence is given to the view that infection may be prevented from developing into serious disease by raising the bodily resistance and by diminishing the strength or sizes of the infecting doses. Tuberculosis Village Settlements, such as Papworth at Cambridgeshire and Preston Hall at Aylesford, have demonstrated the feasibility of the idea. Papworth, established in 1916, is a colony or village settlement for tuberculous cases in the arrested or quiescent stage. The underlying idea is voluntary segregation. Training in some trade or craft is given while the colonist is under treatment or medical observa-

tion. Remunerative employment is offered, which enables the colonist to earn part of his income, the remainder being provided by the state as a subsidy. The colony provides at all times medical supervision and hospital facilities. Some of the colonists settle down with their families and remain for life. Thus, such a scheme provides medical care, remunerative occupation, and an optimistic atmosphere; the entire family may be supervised and the general public is protected.

In all countries, of course, general measures, such as education of the public, sanitary regulations, the encouragement of better living standards, etc., are not neglected. In the United States, the drastic method of separating children from their families is not acceptable, the development of colonies is in its infancy, and mandatory laws are not popular.

—————R—————

Chronic Pentosuria and Migraine

Changes in diet did not appreciably affect the pentosuria in the case reported by Jacob I. Margolis, New York (J.A. M.A., July 20, 1929). Ingestion of amidopyrine markedly increased the output of pentose in the urine in direct proportion to the amount ingested. As no such occurrence was demonstrated in more than 100 normal and sick persons (including some with glycosurias), this effect of amidopyrine may possibly be utilized as a provocative test for chronic pentosuria. Intravenous injections of a typhoid bacillus vaccine caused a marked drop in the pentose and the nitrogen output in the urine on the same day, provided a severe general reaction took place. During this entire series of injections, there was little or no change in the average output of pentose. However, there were certain periods when the excretion of pentose was somewhat lower than had been previously present. These, curiously, coincided with the periods of temporary objective and subjective clinical improvement.

THE JOURNAL

of the

Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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ANOTHER SIDE TO THE PICTURE

The old country doctor, the favored theme for song and story, whom the children love, the fathers praise and the mothers almost worship, is but a sentiment or at best a faded memory. Those literary crowns of glory were never meant for present company. How easy and how kind it is to magnify the virtues of those no longer with us. But rarely does the poet see the other side of the picture in which, like Santa Claus, the country doctor's popularity ebbs and flows with the seasonal demands for his services and his generosity. One accepts the gifts from Santa Claus with little thought of the impoverishment his generosity may occasion. One accepts the services of the country doctor with little thought of his threadbare clothes, his slender purse and his unpaid bills. The service completed even Santa Claus forgets his office number.

There are countless numbers of people who most heartily welcome every opportunity to exemplify the spirit of Santa Claus, and to many of these wealth means nothing except by it Christmas cheer might be more generally and more

generously distributed.

There are thousands who constantly exemplify the poet's ideal of the country doctor, to whom wealth means nothing except it afford the means by which the ills of human beings may be more generally and more generously relieved. To the poetic mind kindness rewarded is no longer kind. Generosity paid for is no longer generous. Charity that yields a profit is no longer charitable.

However, the economists insist that too much kindness is responsible for lack of discipline; too much generosity encourages dependence; and too much charity promotes pauperism. It is perhaps an economic theory that fairness should take the place of kindness; that justice should take the place of generosity; and that charity should be regulated and controlled by organized groups of citizens and distributed according to accepted economic principles. The poet's ideal is not to be found in this scheme of things. The doctor is still there, his services are rendered as before, but his unselfish devotion to the relief of suffering has now been incorporated by various groups of by-standers and he finds his services ordered, or controlled, or interfered with, by representatives of the Honied-tongue Aid Society, The Scotch Association for the Prevention of Extravagance, the Anti-Hiccough League, and other like organizations that gather in considerable contributions for the maintenance of their administrative offices, for the necessary publicity and for the expenses of their visiting representatives. Under no circumstances, however, would they insult the professional dignity of the doctor who does the work by offering to pay him for the services he renders and for which they assume the credit. But he is not the country doctor the poets sing about, he has absorbed some of the theories of modern econo-

mists, has capitalized his knowledge and skill and demands a fair dividend from those who seek to benefit from them. The old country doctor disappeared with the horse and buggy. The doctor of today who happens to locate at a crossroads has ready access to all the laboratory and hospital facilities of the nearby city, and in many instances becomes a better diagnostician and acquires a wider experience than the average of those who locate in the cities. But the doctor of today is never a proper theme for song and story. He is more competent and has accomplished more in the prevention and cure of disease than his prototype of the pre-automobile age, but there is nothing about his personality that is sufficiently striking or picturesque to excite the poet's fancy. Dramatic incidents occasionally vary the monotony of his daily run of duties, but these are rarely mentioned unless he has a particular "yen" for publicity. The spectacular operations, life saving feats and startling discoveries, mentioned more and more frequently in the daily press, are mostly very commonplace affairs which have been embellished for or by the newspapers that report them.

The doctors and their methods have changed, the people and their complaints have changed just as everything else has changed. But there are still a few who were born in the pre-automobile age and occasionally one who had intimate acquaintance with the country doctors the poets wrote about, and possibly his throat fills up and his eyes dim with moisture as he recalls how more than one of them became physical wrecks after years of mental strain and heart breaking toil and died in poverty and want unattended and unmourned, without ever having an opportunity to read one of these beautiful tributes to their

self-sacrificing devotion to what they believed was their duty.

The following conversation was overheard in the post office at Nowhere one Christmas morning just ten years ago.

The Merchant—"Well I hear old Doc Goodman died last night. Widow Smith who lives next door took in some tea and toast this morning and found him dead. He'd been poorly for a few days and she had been taking him stuff like that. She said it looked like he might have got too cold, his fire was out and he didn't have much cover. I guess I ought to have paid him something, but he never sent me a bill."

The Banker—"Of course it's too bad. He was a good doctor but he didn't have any business sense. From the amount of business he had he ought to have been pretty well fixed. He was mighty careless. I guess I owed him about a hundred dollars but he never sent a bill or asked me for it. Well I suppose there is enough due him to pay for a good funeral."

The Merchant—"I know several that have owed him since the flu epidemic. They say he has never been strong since then. He was going night and day for weeks and some of the time had to walk ten or fifteen miles to get to the sick ones. Well so long."

—————R—————

GUEST PROGRAMS FOR COUNTY SOCIETES

During the past year a careful study of the reports from the various county societies in the state reveals a growing tendency to depend upon invited guests for their programs. Some two or three years ago a theory was advanced that members of a county society would not attend meetings unless some attraction was offered. The plan so generally adopted does appear to have solved the problem of attendance but it is doubtful

if it has added anything to the strength of the organization or has added anything to the scientific knowledge or professional ability of the members of those societies. One of the purposes of our organization is to encourage the members to improve their own scientific attainments.

One who believes that education can only be obtained in school will never become highly educated even if he spend his life in school. This applies especially to medical education. Post-graduate courses are of inestimable value if those who attend them compare the teachings there received with their own experiences and with the teachings of other men. The man who does not read the current medical literature and who can not apply a system of logical reasoning to the solution of his own medical problems must be regarded as unfortunate. There is something lacking in the educational curriculum of one who always quotes his favorite medical author or his most respected teacher, in his discussions of medical subjects. The most profitable post-graduate course one can take is to spend two weeks, or four weeks, in an intensive study of the cases he has had during the year, a study particularly of those cases that have puzzled him in their diagnosis and treatment. Such a course will give him more respect for himself and more confidence in his ability.

These programs for county societies that are furnished entirely by guests tend to create an inferiority complex in the members. Some of these have a more extensive and more definite knowledge of the subject under discussion than the lecturer himself, but they rarely if ever let it be known. Instead of discussing these papers and lectures they satisfy themselves with asking a few questions. These questions as a rule simply give the

lecturer an opportunity to elaborate upon some points in his paper and in doing so further impress his superiority upon his audience. These guests do not come to a meeting unprepared. They usually choose the subject with which they are most familiar or which they have most recently studied and whether their performance be a lecture or the reading of a paper, it has been very carefully prepared. To its preparation much time and study has been given, the same amount of time and study that would have enabled most any member of the society to present an equally good paper or lecture.

There are perhaps in St. Louis, in Oklahoma City, in Denver, in St. Joseph and in Chicago men who will accept an invitation to address the members of a county society simply because he has some advanced knowledge to bring to the profession, but seventy-five per cent of those who accept these invitations expect in doing so to build up their own reputations and their drawing power. And if one will take the pains to read between the lines as one of these addresses is being delivered he will find constantly reiterated "This is a very delicate maneuver" or "This is very difficult to accomplish, but I am always available." It is the best and almost the only method of advertising open to ethical men in the medical profession.

These guest programs may be keeping up attendance but they are not carrying out one of the most important purposes of our organization. They offer no encouragement to the member who is doing original work to offer his observations to his colleagues for their discussion or criticism. They offer no encouragement to members who could intelligently discuss the subjects presented. But, on the other hand, they actually discourage these things. There is therefore

less respect for each other among the members of the society, less confidence in each other's ability and a good many cases are sent away that could be cared for just as well and perhaps better at home.

A careful study of the histories of a few county societies suggests some of the reasons for failure in attendance when the members only are on the program. No one feels repaid for listening to a paper that has been prepared a few hours or minutes before the meeting. No one feels repaid for the time and effort required to prepare a really good paper and have no discussion of it after it is presented. That explains the situation that exists now in many societies, and explains why a number of good societies have failed. The situation, however, is one that can be remedied if the officers of the society are sufficiently alert. There are very few members of a county society who will shirk a duty assigned them and in some active societies an effort is made to assign some duty to every member. Most members will take a part in the discussion of papers if asked to do so, particularly if they are asked long enough before the meeting to enable them to prepare for an intelligent discussion. In order to encourage the members to prepare good papers it must be known that those papers are sure to be discussed by the other members who have prepared themselves before hand. It is therefore suggested that some member be selected to prepare a paper and that he be given sufficient time to do it well, and that at least one week before the meeting at which it is to be presented, several or all of the other members be notified by the secretary that they will be called upon to discuss the paper or the subject. If this plan should be pursued for a while some unexpected talent will be discovered in several of the county societies in Kansas.

CHIPS

The conclusion is reached, from a recent article by Boyd, Melgram and Stearns, that in clinical hyperparathyroidism there is an excessive elimination of calcium salts in the urine, with increase of the serum calcium concentration. The bone salts are mobilized and varied types of bone dystrophy may result. In an article by Abelin, published in 1928, some studies on the influence of calcium and phosphates on rats with hyperthyroidism experimentally produced were reported. The administration of phosphates increased the efficiency of the thyroid substances, while that of calcium salts diminished it. The calcium salts seem to have a specific influence on thyroxin only. It is suggested that there is an antagonism between thyroid function and excess of calcium and that this antagonism may play a role in the etiology of goiter. From these two findings one might suspect the possible implication of the parathyroids in the cause of hyperthyroidism.

Iodine, or iodine containing substances, seems to have been used in the treatment of goiterous enlargements of the neck for many centuries. Its effects were varied and uncertain and for a time it was regarded as unsafe. Comparatively recent investigations have rationalized its therapeutic use in hyperthyroidism but with fairly definite limitations. Meeme, in the *Archives of Pathology* for December, has reviewed the literature on the subject and has reached the conclusion that the changes produced by iodine correspond to the natural regressive processes of variable activities of thyroid gland in health and disease. There is a progressive development of intracinar colloid, an ironing out of the papillary infoldings, a marked reduction in the hyperplasia and hypertrophy of the epithelium and the development of more uniformity in the sizes of the alveoli. The longer the administration of iodine the greater the accumulation of colloid as a rule. But over-iodinization with a continuance of the etiologic factors results in a hyperplasia and hypertrophy that break through the colloid resistance,

and these areas are the source of marked hypersecretion.

In the December number of the *Archives of Surgery* there are several articles on abscess of the lung, with special reference to post-operative abscess. The authors of these papers have been engaged in clinical and experimental studies of this subject and although the concensus of opinion is that emboli are more likely to be responsible for the abscess, a bronchogenic infection must also play some part. Taken all in all the etiology of post-operative pulmonary abscess is still a problem. These papers were part of the program of the American Association for Thoracic Surgery and in the discussion by various members of the Association one notes the same differing opinions concerning the relation of anesthesia to the occurrence of pulmonary abscesses. One reports the finding of blood in the lower respiratory tract after tonsillectomies done under local anesthesia; another asserts that there is no aspiration under local anesthesia.

It is suggested by Wildegans that instead of emphasis being put on disturbances of the circulation, infection or alteration of the walls of blood vessels to explain postoperative thrombosis and embolism, attention ought to be directed to the modification in the physical and chemical constitution of the blood. It was suggested by Von Seeman that after operations there is an excess of globulin and fibrinogen in the blood, resulting from wound exudates and damaged tissues. A further suggestion might be made that the solution of the problem might be aided if it could be determined how frequently postoperative thrombosis or emboli occur, which do not cause clinical manifestations of any definite character.

—R—

DR. JAMES W. MAY

A Personal Appreciation

"I weep for Adonais—he is dead!"

I knew Doctor May throughout his whole professional life. My acquaintance with him was not so intimate, of course, as was that of his immediate associates.

But meeting him, as I did, not infrequently year by year, I was afforded ample opportunity to appraise the man and thus to get a good perspective of his character. So I feel that I knew him well. Indeed, I came to have a very fraternal feeling for him. For one could not know him well without warming toward him with a sort of real affection. His nature was so buoyant, his countenance was so frank and friendly, his whole person so animated with good feeling that one could not fail to respond to such a kindly influence. Of course I do not mean that he was never serious. He was that, too, especially if a friend were in trouble, or other grave considerations were in hand. But withal, he was essentially optimistic, and could infect any company with the contagion of his own good cheer.

He could also be very partisan on occasion. And this does not detract from the estimation in which I held him. It simply displays a very human side of his nature. He would join a campaign with eagerness and ardor to put over some cherished project or to advance the interests of some friend. And in the jostling that ensued he sometimes would receive as well as inflict petty wounds. But any resentment that naturally may have thus resulted was quite transitory, and the friendships with those who incidentally opposed him were seldom more than momentarily interrupted.

I shall not attempt to discuss my friend's professional talents and accomplishments. Many who are better qualified stand ready to testify in his behalf along these lines. That he was a wise, skillful and experienced physician is widely conceded.

I prefer to depict here, in my poor way, his qualities as a man, as a citizen and as a friend, for these are the qualities for which he will be longest remembered. He was such a man as is not too common these days—clean, upright, home-loving, generous. He was such a citizen as his city, state and country may well be proud of—loyal, law-abiding, public-spirited, patriotic. He was such a friend as any one should rejoice to have—kind, sympathetic, helpful, loving. He was very human, as I have said, and so

perhaps not without faults. But they were "not grave faults to you and me, but just odd ways, mistakes, or even less, remembrances to bless."

How we shall miss him where so long we have been wont to find him! How we shall feel the ache of so long a parting!

I wish that I had the power to pay more adequate verbal tribute to my lamented friend. But the words at my command fall far short of telling what my heart would say. Perhaps, in closing, I may be allowed to use some of the beautiful lines from Shelley's elegy on the death of his friend, John Keats:

"He is made one with Nature. There is heard
His voice in all her music, from the moan
Of thunder to the song of night's sweet bird.

He is a presence to be felt and known
In darkness and in light, from herb and stone—
Spreading itself where'er that Power may move
Which has withdrawn his being to its own,
Which wilds the world with never-wearied love,
Sustains it from beneath, and kindles it above.

"He is a portion of the loveliness
Which once he made more lovely. He doth bear
His part, while the One Spirit's plastic stress
Sweeps through the dull dense world; compelling
ing there

All new successions to the forms they wear;
Torturing the unwilling dross, that checks its
flight,

To its own likeness, as each mass may bear;
And bursting in its beauty and its might
From trees and beasts and men into the heaven's
light."

Jan. 6, 1930

O. P. D.

—R—
SOCIETIES

HARPER COUNTY SOCIETY

The Harper County Medical Society met in Anthony, December 11, at 7 p. m. Dr. E. S. Edgerton of Wichita, president-elect of the Kansas Medical Society, was guest of the evening. The following program was carried out:

Benign Prostatic Hypertrophy, Eastman Medical Film, Dr. A. E. Walker, Anthony.

Prastatic Therapeutics, Dr. Hartman, Anthony.

Prostatectomy, Technic and Results, Dr. E. S. Edgerton, Wichita.

The papers were discussed by Dr. A. R. Hatcher of Wellington, Dr. Gilbert of Medicine Lodge, Dr. Dillon of Wellington and others.

The following officers were elected for the ensuing year: President, Dr. A. E.

Walker, Anthony; Vice President, Dr. J. G. Walker, Attica; Secretary-Treasurer, Dr. E. E. Hartman, Anthony.

A. E. WALKER, Secretary.

MITCHELL COUNTY SOCIETY

Mitchell County, Beloit, Kansas, has a fine new modern hospital. In spite of threatening rain or snow, about 800 people were present at the dedication and reception of the \$250,000 hospital and nurses home at Beloit, December 11, 1929. This hospital will serve an area within a thirty-five mile radius from Beloit, and was made possible by the Commonwealth Fund of New York City contributing two-thirds of the necessary funds.

This is one of five such hospitals which are being established in U. S. A. from this fund in like manner. Dr. Jackson, former A.M.A. president from Kansas City, Mo.; Dr. Brown from State Board of Health, Topeka, Kansas; Judge Dawson of the Supreme Court, Mr. Smith and Mr. Southmaid of New York City; Mr. Kazey, former minister to Finland, now of Beloit, were among the speakers in the afternoon.

The Mitchell County Medical Society were hosts at a banquet for about sixty, held at the Avenue Hotel in the evening and the speakers of the afternoon gave after dinner talks with the exception of Judge Dawson who was obliged to leave early. The afternoon program was sponsored by the Solomon Valley Medical Society.

MARTHA M. MADTSON, M.D., Secy.

FORD COUNTY MEDICAL SOCIETY

The Ford County Medical Society met at Saint Anthony's Hospital in Dodge City, Kansas, Friday, December 6, 1929, at 7:30 p. m. for the annual election of officers. Officers elected:

Dr. G. O. Speirs, Spearville, Pres.; Dr. C. E. Bandy, Bucklin, First Vice Pres.; Dr. J. W. Spearing, Cimarron, Second Vice Pres.; Dr. W. F. Pine, Dodge City, Sec.-Treas.; Dr. R. G. Klein, Dodge City, Delegate to State meeting; Dr. W. O. Thompson, Dodge City, Alternate to State meeting.

No program had been provided for this meeting, but a general discussion for the good of the society followed the election.

An educational program, for the year 1930 was thought advisable through the use of paid space used in the daily press, and a committee was named by the president to work out a satisfactory, ethical educational campaign.

The next meeting to be held Friday, January 10, 1930, when a dinner will be served the members and invited guests, and a speaker from out of town provide the program.

Beginning February 7, 1930, meetings will be held the first Friday of each month.

W. F. PINE, Secretary.

CLAY COUNTY MEDICAL SOCIETY

The December meeting and election of officers of the Clay County Medical Society was held at the Clay Center Hospital, Wednesday evening, December 11, 1929. The election of officers resulted as follows:

President, C. C. Stillman; Vice President, Robt. Algie; Secretary, X. Olsen; Treasurer, F. R. Croson; Member Board of Censor for three years, W. R. Morton; Delegate to State Society, R. J. Morton.

Reports of the Secretary and Treasurer were read and approved. These reports showed that all but one of the available physicians are members of the County Society. Three members live outside of the county. Total membership is twenty-one. There has been nine meetings held during the year, all of which have been well attended, and the programs, without exception, have been made up of talent of which any county society may be proud.

The program for the December meeting was a clinic and lecture on Chronic Arthritis by Dr. Russell L. Hayden of Kansas City. This was fully up to the standard and was greatly enjoyed by the doctors present.

X. OLSEN, Secretary.

WILSON COUNTY SOCIETY

The Wilson County Medical Society met at the Brown Hotel at Neodesha,

Monday evening, December 13, and after supper was addressed by Dr. L. S. Cox on the work being done in several counties in the examination of children. Dr. Cox had held a tuberculosis clinic at Fredonia that day.

Election of officers resulted as follows: Dr. C. H. Dewey, Elk City, President; Dr. F. M. Wiley, Fredonia, Vice President; Dr. E. C. Duncan, Fredonia, Secretary-Treasurer; Dr. F. M. Wiley, appointed on Necrology; Drs. B. R. Riley, Benedict, Dr. A. P. Williams, and Dr. J. W. McGuire, Neodesha, Board of Censors. Dr. B. P. Smith, delegate, and Dr. E. C. Duncan, alternate, to State meeting at Topeka in May.

We always adjourn at 9 p. m., there being time yet at our disposal, the President gave each member seven minutes to unload anything he might want to talk about, and each member used his seven minutes.

Next meeting in Fredonia second Monday evening in January.

E. C. DUNCAN, Secretary.

GOLDEN BELT SOCIETY

The Golden Belt Medical Society met at the Bartell House in Junction City, January 2. There were about thirty in attendance.

Dr. W. C. Menninger of Topeka gave a very interesting talk on "Epilepsy of Congenital Syphilitic Origin," reporting the results of some extensive research he had been conducting. It was his opinion, which seemed to be justified by the data accumulated, that idiopathic epilepsy frequently occurred in people in whom congenital syphilis could be definitely diagnosed and that it should be regarded as an etiologic factor.

Dr. B. A. Poorman of Kansas City, Missouri, gave a lecture on "Gall Bladder Surgery" in which he called attention to diagnostic as well as operative methods and described the operative technic in considerable detail.

Dr. V. E. Chesky read a paper on "Carcinoma of the Large Intestine" describing the pathology, symptoms and methods of differential diagnosis. A cure in these cases was possible if removal of the growth preceded metastasis.

Dr. R. C. Lowman of Kansas City, Kansas, read a very interesting paper on "Goitre."

The guests were entertained at dinner by the Junction City members.

JACKSON COUNTY SOCIETY

The Jackson County Medical Society met in the Memorial Hall, Holton, Kansas, at 7:30 p. m., December 12, 1929.

Motion was made and seconded that Dr. James M. Wright, Denison, Kansas, be accepted into the membership of the County Medical Society.

Election of officers for the year 1930 resulted as follows:

E. W. Reed, president; M. Shoyer, vice president; C. A. Wyatt, secretary-treasurer; M. S. McGrew, delegate; J. B. Smythe, alternate; E. W. Reed, C. W. Reynolds, M. Shoyer, censors.

Members present were Drs. M. S. McGrew, M. Shoyer, J. B. Smythe, E. W. Reed, C. W. Reynolds and C. A. Wyatt.

C. A. WYATT, Secretary.

—R—

DEATHS

Harry Bowman Felty, Abilene, aged 60, died in April from a self-inflicted bullet wound. He graduated from Jefferson Medical College, Philadelphia, in 1892.

Harry S. Durrett, Ellis, aged 77, died August 13, in Hays of carcinoma of the pancreas. He graduated from Louisville Medical College in 1879.

James C. Preston, Buffalo, aged 66, died September 19 of acute nephritis. He graduated from the Medical Department of the University of Tennessee, Nashville, in 1885.

Dr. James Whittier May, Kansas City, aged 50, died at Bell Memorial Hospital, on December 19, of pernicious anemia with degeneration of the spinal cord. He graduated from the College of Physicians and Surgeons, Kansas City, Kansas, in 1900. Dr. May was editor of *The Journal* for six years, was elected president of the Society at the annual meeting at Topeka in 1916. He was for twelve years professor of clinical ophthalmology in the University of Kansas School of Medicine.

Fay P. Clark, Kansas City, aged 57, died December 15 as the result of x-ray burns received many years ago. He graduated from the College of Physicians and Surgeons, Kansas City, Kansas, in 1898. He was one of the pioneers in roentgenology. Had been a member of the staff of Bethany Hospital and was a member of the Society.

—R—

BOOKS

Clinical Obstetrics by Paul T. Harper, M.D., etc., clinical professor of obstetrics, Albany Medical College. Published by F. A. Davis Company, Philadelphia. Price \$8.00.

The author has given special attention to the obstetrical problems and has endeavored to stress the principles involved rather than the procedures that may be or should be carried out. This idea is noted in his discussion of the mechanism of labor which should be appreciated by the reader. The illustrations are largely diagrammatic and seem to fulfill the purpose for which they were intended.

Hemorrhoids, the injection treatment and pruritus ani by Lawrence Goldbacher, M.D. Published by F. A. Davis Company, Philadelphia. Price \$3.50.

In this book the author has very carefully explained the injection treatment of hemorrhoids, has both described and illustrated the technic in such a manner that it should be easily followed.

Synopsis of the practice of preventive medicine as applied in the basic medical sciences and clinical instruction at the Harvard Medical School. Published by the Harvard University Press, Cambridge.

This book was prepared particularly as a suggestion to teachers in various departments of medicine as to how they can best emphasize such preventive measures as may come within the scope of their courses of instruction. It seems to have been very carefully developed and should be of considerable value to teachers as well as pupils.

Bacteriology for Nurses, a handbook by Harry W. Carey, M.D. Third edition. Published by F. A. Davis Company, Philadelphia. Price \$2.25.

The author has rewritten the text adding whatever new material was available and enlarging the scope of the work to meet the requirements of the National

League of Nursing. There are several lists of questions, one at the end of each chapter intended to facilitate a general review of the subject.

The Volume of The Blood and Plasma in Health and Disease. By Leonard G. Rowntree, M.D., and George E. Brown, M.D., Division of Medicine, The Mayo Clinic and The Mayo Foundation, Rochester, Minnesota, with the Technical Assistance of Grace M. Roth. 12mo 219 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$3.00 net.

The authors attempt to show the value of the study of the blood volume and plasma volume in clinical medicine. They believe it is possible without injury or harm to the patient, to determine the nature and extent of changes in the volume of plasma and blood in various diseases, and to ascertain the role these changes play in the causation of various signs and symptoms. The dye method has been used to considerable extent by them and they believe it is a satisfactory method. They have made more than 1,000 determinations in a series of more than 350 clinical cases during the past six years.

The Medical Clinics of North America. (Issued serially, one number every other month.) Volume 13, No. 3. (New York Number, November, 1929.) Octavo of 272 pages with 58 illustrations. Per clinic year, July, 1929 to May, 1930. Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

Held and Goldbloom discuss at considerable length the functions of the gallbladder. Tinney, Lintz, Jessup and Brooks have an article and case reports on pernicious anemia. Cannon describes the dermatologic conditions as seen in children. Bullova discusses the serum treatment of the pneumococcus pneumonias. Pardee has some remarks on the importance of the etiology in the diagnosis of heart disease. Brock reports a very interesting neurological clinic. Pugh talks about blood in the urine, and Elwyn presents the diagnosis of nephritis. Ramirez talks about bronchial asthma as does Baldwin also. Caro and Riordan discuss varicose ulcers and eczema. There are several other quite interesting articles.

The Surgical Clinics of North America. (Issued serially, one number every other month.) Volume 9, number 6. (Lahey Clinic Number—December, 1929) 188 pags with 51 illustrations, and com-

plete index to volume 9. Per clinic year (February, 1929, to December, 1929.) Paper, \$12.00; cloth, \$16.00. Philadelphia and London.

Apathetic thyroidism as distinctive to activating thyroidism is the subject of Lahey's opening article in this number of the Clinics. This is followed by articles on various phases of the subject of goiter, by Clute, Hurxthal, Mason, Cattell and another by Lahey. Sise discusses spinal anesthesia and two of the new anesthetics. Jordan discusses surgical indications in cancer of the stomach. Keifer discusses the effect of the alkali treatment of peptic ulcer upon the kidneys. Adams reports some toxic effects following the use of the Graham test. Cattell reports some complications following the injection treatment of varicose veins. Haggart discusses low back pain from lumbosacral anomaly. There are several papers by Lahey, Clute, Mason and Cattell.

—R—

Physical Examination of Aeronauts

All applicants for federal pilot licenses, either for flying or for training as pilots, must pass physical examinations before physicians designated by the Secretary of Commerce. They must likewise be re-examined periodically. These examinations cover a rather detailed examination of the eyes, a brief examination of the ear, nose and throat, equilibrium, a general physical examination, and a detailed examination of the nervous system. There are now about 750 medical examiners so designated throughout the country. All these examinations are reviewed in Washington where the applicant is finally certified as qualified or disqualified for the grade for which he has applied.

In approval of the scope of the examinations required the American Medical Association, at the annual meeting in Portland, adopted the following resolutions:

Whereas, The Aeronautics Branch, Department of Commerce, has organized a medical service for the physical examinations of civil pilots and prospective pilots, in the interests of safety; and

Whereas, The physical standards adopted are in keeping with those adopt-

ed universally, and have reduced aircraft accidents from physical causes to a minimum; and

Whereas, The department has required these examinations to be made only by designated physicians in the interest of uniformity and control and in accordance with the custom adopted for the Army and Navy and in other countries; and

Whereas, The selection of examining physicians by the department has been based on training as flight surgeons or its equivalent, or on group examinations by specialists, a high standard of examination has resulted; and

Whereas, The department requires that all examiners hold the degree of Doctor of Medicine, be licensed to practice medicine under the laws of their respective states, and further requires that the appointees be recognized as ethical practitioners in their respective localities, thereby supporting the high standards advocated by this Association, be it

Resolved, That the American Medical Association at its stated assembly in 1929 endorses the medical work of the Department of Commerce, its methods of physical examination and its method of selection of medical examiners, and urges that the same high standards be continued and offers the support of the American Medical Association in furthering the specialty of aviation medicine; and be it further

Resolved, That a copy of this resolution be sent to the President of the United States, the Secretary of Commerce, and the Secretary of each state medical society.

—R—

The True Story of Acterol

(for additional details see the Mead Johnson announcement in this issue and also watch for special color supplement, Journal American Medical Association, January 18. All Mead Products are Council-Accepted.)

Chemists call it by its correct chemical name, *solution activated ergosterol*—the name by which Mead Johnson & Company first supplied it.¹ The largest manufacturer of rare sterols in America, early having activated cholesterol²

(1925), being first to commercially produce pure ergosterol³ and to standardize activated ergosterol^{1,4} (October, 1927), seeking to protect themselves and the medical profession against substitution, Mead Johnson & Company coined the name *Acterol*—signifying *activated ergosterol*. The Council on Pharmacy subsequently coined a name, *Viosterol*. As servants of the American Medical Profession, this Company cheerfully defers to its wishes and now call its product Mead's *Viosterol in Oil, 100 D*. The product remains the same: only the name is changed.

REFERENCES

1. J. Biol. Chem., 76:2.
2. *Ibid.*, 66:451.
3. *Ibid.*, 80:15.
4. *Ibid.*, 76:251.

—R—

Tucker's Asthma Specific

The continued exploitation of this cocaine mixture is a standing disgrace to the federal authorities. The nostrum carries a label admitting the presence of 5 grains of cocaine to the fluid ounce. When the Commissioner of Internal Revenue was asked in 1922 how such a product could be sent without violating the Harrison Narcotic Law, his reply was that the cocaine in the remedy became hydrolyzed before it reached the public, and that when used there was either no cocaine or a very small quantity. This commissioner, at the same time, also gave a fulsome puff for the nostrum expressing the opinion that the mail-order distribution of this product served "a great humanitarian cause" and, for that reason, the Treasury Department was taking no action. This in spite of the fact that the product obviously violates the Harrison Narcotic Law, for if it does not actually contain cocaine it admittedly contains a derivative of cocaine, to which the law also applies. Furthermore, if the product does not contain 5 grains of cocaine to the ounce, then it violates the National Food and Drug Act. (J.A. M.A., Dec. 7, '29.)

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The Etiology of Influenza

I. S. Falk and his colleagues publish a preliminary report of their work on the etiology of influenza which does not go far beyond previous research on in-

fluenza. The difficulty in interpreting the results is largely due to the fact that it is difficult to distinguish clinical epidemic influenza from acute respiratory infections in monkeys and, indeed, in man. In 1892 Pfeiffer described an organism as the causative organism of influenza and since that time other allegedly causative organisms have been described. The green producing streptococcus isolated by Mathers and Tunnicliffe in 1918, the one isolated by Rose now in 1919, the filter passing organism described by Meyer in 1919, and the organism discovered by Olitzky and Gates called *Bacterium pneumosintes*, would seem to deserve as much consideration as should be given, at least on the basis of the available evidence, to the germ recently announced by Falk. (J.A.M.A., Dec. 28, '29.)

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Medical Treatment of Cataract

About every five years, of the ophthalmic world is thrilled by the announcement of a new medical cure for senile cataract. This has been going on for at least two hundred years. Boric acid and glycerine, ethylmorphine hydrochloride, subconjunctival injections of mercuric cyanide, radium, antigenic injections of lens proteins, mixed endocrine glands, sodium iodide in all possible combinations, and so on have all had a trial. Not one of them has been scientifically established as of value and more cataracts are being operated on than ever before. (J.A.M.A., Dec. 14, '29.)

—————R—————

Undulant Fever

Goats, pigs, sheep and cattle are known to suffer from infections with closely related bacteria which belong to the genus *Brucella*. The general name Brucellosis is therefore given to all of these infections. While each of these kinds of animals is commonly infected with its own strain, it sometimes happens that one kind may be infected with the strain characteristic of one of the other species.

Human beings may acquire these infections from the quadrupeds mentioned, either by direct contact in caring for or slaughtering them and dressing their carcasses. There is good reason for believ-

ing that some cases are due to drinking the milk of infected animals.

The prevalence of these infections of persons differs greatly in different parts of the world, as does also the prevailing source of the infection. For example, in the Mediterranean area, human infection with the goat disease is common, and is known as Mediterranean or Malta fever. While there have been cases and outbreaks of the goat infection in the United States, it is not at present the prevailing type.

The figures are as yet too incomplete to enable us to state with confidence the strain of the germ responsible for the common human brucellosis in the United States. Inasmuch as cows are sometimes infected with the porcine strain, they may be the immediate means of conveying this type of infection to man.

These infections in man could properly be called brucellosis as they are in the animals, but on account of one fairly common characteristic the disease is commonly called Undulant fever when it occurs in man, due to the undulating or wave-like up and down course of the fever and other symptoms. One attack follows another with intervals of relative freedom. The death rate of this disease is not high, but the degree of disability caused in the individual is often great. Some times the infection consists of only a single attack but in other cases it clears up permanently only after several years of greater or less suffering and disability. Up to the present time no specific treatment or cure has been discovered.

Studies are now being conducted to determine the sources of the infections. These apparently differ in different areas. In some, the cases are mostly traceable to caring for pigs or cattle or handling their carcasses. In others the chief source apparently has been drinking the milk of cows from infected herds.

Preventive measures must include an attempt to eradicate the disease from hogs and cattle, and pending the accomplishment of this result, measures to protect persons from infection while handling animals or their carcasses, and measures to prevent milk transmission.

While under favorable conditions it may be possible to eradicate the disease from a given herd within a few years, it is foreseen that the general elimination of the disease from the cattle and hog population throughout the country will be a slow process. In the meantime we have in pasteurization an effective means of avoiding infection through milk.

Undulant fever is not so prevalent as to constitute a major health problem. There is no cause for undue excitement. Nevertheless there are far more cases than were recognized a few years ago, and it is well to take such precautions as may reasonably be observed. As concerns the pasteurization of milk, undulant fever is only another reason added to equally important ones for protecting the public by employing this measure as regards the great bulk of market milk. The Public Health Service maintains that milk should be produced and handled under strict sanitary precautions before it is pasteurized.

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Prevention of the Spread of Contagious and Infectious Diseases In Interstate Commerce

The work of the Public Health Service in connection with the control of the interstate spread of disease is explained in a report recently made to Congress by Surgeon General H. S. Cumming.

The eighty-three county health departments which were established in the area affected by the Mississippi flood of 1927 have been effective in averting outbreaks of disease which threatened to follow the wake of the flood. The success of this plan in meeting such an emergency has attracted the favorable attention of health authorities in this country and abroad.

As a result of more than fifteen years' experience in endeavoring to apply practical public health knowledge to the community and the home, public health authorities are agreed that the best results can be secured through the establishment of whole-time local health service in the rural sections where such work is most urgently needed. County health organizations provide the machinery through which all public health activities may be

conducted in proper sequence and in proper relation one to the other, thereby insuring to communities a well-balanced, comprehensive and general program of public health work well adapted to their needs. They also afford the best practicable means for preventing the interstate and intrastate spread of disease.

During the fiscal year just completed, the Public Health Service co-operated in 204 counties located in 17 states. At the present rate of progress, however, about 51 years will be required before all the rural communities in the United States will be receiving adequate health service, the lack of which is now responsible for an annual economic loss of more than one billion dollars.

The trachoma eradication work conducted by the Public Health Service was continued during the past year. Three small trachoma hospitals have been in operation in three states. The establishment of several county health departments in trachomatous areas has aided greatly in the location and follow-up of cases and in the dissemination of knowledge regarding the prevention and eradication of this disease.

Satisfactory co-operation has been received by the Service from state health departments, conservation commissions and representatives of the shell fish industry in connection with measures to insure the sanitary control of shell fish in interstate traffic. No outbreaks of disease due to infected shell fish occurred during the year.

Measures for insuring safe water and milk supplies on trains and vessels engaged in interstate traffic have been continued with cordial co-operation from State and municipal health departments and railroad and steamship companies. Through this co-operative procedure, a vast amount of work has been accomplished at very low cost to the Federal government.

—R—

Sickness Among Industrial Employees During the First Three Months of 1929

During the past nine years a group of approximately 35 sick-benefit associations in industry has reported to the United States Public Health Service the

cases of illness and nonindustrial accidents causing disability for eight consecutive calendar days or longer among its members, and the monthly number of male and female members. These reports have been analyzed once a year, and the results have been made public from time to time by the Public Health Service. This material has afforded measurement and evaluation of several important factors affecting the frequency of different diseases and disease groups in a sample of the industrial population. It is realized, however, that a need also exists for some sort of current index of illness so that attention may be directed to the changing morbidity picture, and preventive effort mobilized to reduce the incidence of those diseases which are causing the greatest impairment to the health, vitality, and efficiency of the adult occupied population as indicated from the recorded sickness experience of a sample of that population.

A report recently published by the Service represents the first attempt to provide fairly current information on industrial morbidity. It was hoped that the sickness rates could be presented soon after the close of the first quarter for 1929, but tardy claims for sickness benefits, deferred diagnoses, and other reasons delayed the reports to the Public Health Service.

An increase of 38 per cent, compared with the first quarter of 1928, is shown in the incidence rate of disabilities lasting more than one week. For the respiratory disease group an 86 per cent increase in frequency is indicated, due, of course, to the influenza epidemic which was still raging in the early part of this year. Influenza itself was 163 per cent more frequent than in the same period last year. The pneumonia (all forms) rate was only 28 per cent above the rate of a year ago. Deaths in the industrial population of the United States and Canada followed the increased frequency of sickness. A large life insurance company reports an increase of 18 per cent in the industrial death rate in the first quarter compared with the same part of 1928. The mortality rate appears to have been higher than during the first three months

of any year since 1920. The combined influenza-pneumonia death rate showed an increase of 88 per cent over the rate in the first quarter of 1928. Disabilities which lasted more than one week on account of influenza and pneumonia in our sample of the industrial population increased 147 per cent.

Sickness from nonrespiratory diseases as a whole occurred at much the same frequency in the two periods.

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Chemical Obliteration of Varicose Veins

Howard M. Kern and Lewis W. Angle, Baltimore (J.A.M.A., Aug. 24, 1929), report on the treatment of 104 cases of varicose veins and 148 legs. The majority of patients had varicose veins on the leg and thigh. There were 651 injections given, varying in individual cases from two to twenty-seven. Two patients had been previously operated on; nineteen cases were complicated by ulcer, and six cases were complicated by *eczema*. Three patients had superficial ulcerations following the use of 20 to 30 per cent sodium chloride solution. These were not due to faulty injections but to wounds in spite of the fact that careful subsequent leakage from the puncture and prolonged pressure was made over the site. In three cases there was an ascending chemical phlebitis following the injections of salt solution. There was one recurrence after six weeks. The veins had been obliterated by cohesion of the walls and support was not given. This patient was given injections later, with a good result. There has been no case of infection or embolism. In no case was there failure to obliterate the injected veins. However, two patients with tremendous dilatation of the internal saphenous vein required twenty-five and twenty-seven injections, respectively, and in one very resistant case treatment is not yet completed. The ulcers have healed as if by magic except in two instances in which there had been a recurrence of ulcer formation for fifteen years and the tissues of the leg had undergone such trophic changes that healing was almost impossible except by radical excision and grafting. Although these ulcers have not healed they have

been greatly reduced in size. None of the patients lost time from work. The authors are convinced that the injection treatment is the method of choice as opposed to operative treatment, both from the standpoint of danger and also from the standpoint of time lost. There are four contraindications to this treatment: (a) active or latent phlebitis; (b) obstruction to the deep veins; (c) arterial disease of the extremities (Raynaud's disease and thrombo-angiitis), and (d) cardiac disease. Pregnancy, in itself, is not a contraindication, but as the varices are greatly improved after delivery, Kern and Angle believe it is best to wait. A mixture of 50 per cent dextrose and 30 per cent sodium chloride is an ideal solution to use for obliterating the veins. Injections should be made in the horizontal position, if possible. If the internal saphenous vein is varicosed above the knee as well as below, it should be obliterated as high as is necessary to insure a cure of the varices of the leg. There is little or no danger in the treatment if it is done by careful operators with a thorough understanding of vascular conditions.

— R —

Erysipelas

In the case reported by A. Wilmot Jacobsen, Buffalo (J.A.M.A., Aug. 3, 1929), erysipelas streptococcus antitoxin given in large doses (the full adult dose was administered on each occasion) failed to cause clinical improvement. The temperature remained elevated, the rash continued to spread and the general condition grew steadily worse. The fact that adult doses were given to an infant weighing 20 pounds (9 Kg.) would seem to eliminate inadequate dosage as a factor in the failure of serum treatment. Nor can delay in administration or extreme debilitation of the patient be advanced as reasons for the failure. This is, in fact, one of those cases not infrequently seen and well recognized by men who have had experience with the use of antitoxin in erysipelas, in which antitoxin seems not to exert any effect whatever. On the other hand, blood transfusion on two occasions produced immediate and striking results. As there

are probably many different strains of the streptococcus of erysipelas, one might expect the blood of one donor to be ineffective in a given case while that of another brought results. In a similar manner, failure of antitoxin therapy in a case due to an atypical strain of streptococcus could be explained.

— R —

Acriflavine Hydrochloride and Acriflavine Base

When first used, acriflavine base was called "tryptaflavine" by Ehrlich. In England and in this country, however, the hydrochloride is commonly known as acriflavine, although the free base (which has also the designation "neutral" acriflavine) sometimes goes under the same name. Because the standards for these dyes which had been adopted by the Council on Pharmacy and Chemistry in 1919 had been found inadequate and because some American authors had asserted that the foreign product was superior to the domestic, the American Medical Association Chemical Laboratory undertook an extensive investigation of the composition of the dyes. As a result of the comparison of the various European and American brands of acriflavine hydrochloride and acriflavine base it is concluded that there is not sufficient difference in the purity to justify the statement that the foreign product is superior to the domestic, even though at times the brands differ in appearance. The work of the laboratory emphasized that a solution of acriflavine hydrochloride is distinctly acid in character. Even a solution of acriflavine base imparted an acid reaction in the range of a pH from 3 to 5. Two years ago, after these investigations were started, the Council on Pharmacy and Chemistry adopted for new and nonofficial remedies the scientific names acriflavine hydrochloride, for the product generally known as acriflavine, and the scientific name acriflavine base for "neutral" acriflavine, and the completed work of the laboratory emphasizes the importance of the adoption of these names by physicians in their prescriptions and their publications. (J.A.M.A., August 31, '29.)

Action of Specific Diuretics

Experiments were made by George M. Curtis, Chicago (J.A.M.A., Dec. 28, 1929), to answer the question of reflex anuria. The simultaneous administration of 100 cc. of distilled water intraperitoneally at body temperature and the customary dose of the diuretic intramuscularly did not result in any diuresis in rabbits with denervated kidneys. Not only was the ordinary response to the specific diuretic blocked, but even the denervation polyuria was decreased. A secondary diuresis was evident. The blocking of the action of the specific diuretic cannot thus be the result of a reflex nervous inhibition of urinary secretion. Fluid recovered from the peritoneal cavity sixty minutes after the injection of distilled water was nearly isotonic and had a high concentration of electrolytes, with about 23 per cent other than chlorides. The nitrogen concentration of 0.24 per cent indicated albuminous substance approaching 1.5 per cent. When distilled water at body temperature is perfused through the peritoneal cavity of normal rabbits at the rate of 500 cc. an hour, the blood chloride steadily falls. Other electrolytes are likewise dialyzed away from the blood and tissues. The secretion of urine soon diminishes and an anuria ensues. Injection of the diuretic during the perfusion does not produce any response. There is no secondary diuresis, since the intraperitoneal fluid acquires but a low concentration of electrolytes at any one time. The kidney is not incapacitated by the perfusion, since a marked diuresis results if simultaneously 2.5 per cent sodium chloride is given intravenously at the rate of 1 cc. a minute. Various theories have been proposed to account for the action of the specific diuretic. Since the work of von Schroeder they have been thought to act directly on the kidney, and this is now the most generally accepted teaching. The view that they act intrarenally, however, is gaining adherents. These studies teach that the primary action of the specific diuretics is on the tissues. Under their influence permeability changes are initiated, resulting in a rapid passage of electrolytes, principally chlor-

ides, into the blood stream. These act as stimulants to the kidney and initiate the formation of the urine. Opening up a new pathway for the chlorides and other electrolytes, by the simple procedure of intraperitoneal injections, definitely changes the ordinary response. Associated with the action on the tissues is doubtless a similar one on the renal cells.

—R—

Present Status of Convalescent Serum Therapy

The impression of W. H. Kellogg, Berkeley, Calif. (J.A.M.A., Dec. 21, 1929), gained from an analysis of some published reports, is that convalescent serum is of value in the treatment of poliomyelitis, and that its use should be encouraged and extended. Several facts seem fairly conclusive from the literature studied. These may be stated as follows: Whatever benefit may be expected from convalescent serum can be realized only when it is given in the pre-paralytic stage. The intrathecal route would seem to be as safe, and certainly as effective, as less direct methods. The intramuscular or intravenous route is possibly as effective as the intrathecal, excepting for a certain amount of delay in reaching the spinal fluid with antibodies, but further studies on this point are desirable. The prophylactic use of convalescent serum given subcutaneously or intramuscularly in time of epidemic, as suggested by Flexner, is amply backed up in its rationality by experiments with monkeys and is probably a valuable measure, albeit limited in application by difficulties in obtaining serum. Further information on the value of convalescent serum is needed and, in the prosecution of studies, the prime requisite is a real control represented by a series of untreated cases in every respect the same as are treated cases. This similarity must include time, stage of the epidemic, and clinical type. Every published study should give full details as to how and why certain cases were selected for controls. Published studies on the effect of convalescent serum should exclude all abortive cases on account of the uncertainty of diagnosis, Characteristic symptoms of central nervous system involve-

ment should be present, and cases in which spinal fluid examinations are not made should be tabulated separately. In view of the widespread immunity to poliomyelitis indicated by the low attack rate, the possibility that the so-called normal serum of young adults may frequently carry immune bodies in serviceable amounts, and the difficulties in the way of securing an adequate supply of known convalescent serum, it is suggested that an experiment with normal serum would be worth while.

—R—

Gastric Manifestations Associated With a Spastic Colon

It is generally recognized that the symptoms of recurring epigastric pain, nausea and vomiting which are usually part of the clinical picture of gastric disease may sometimes be associated with more distant lesions, such as chronic infections of the gallbladder and of the appendix. It is not so generally appreciated, however, that the same symptoms are also commonly associated with a chronic spastic condition of the colon. The type of pain under discussion by Fred M. Smith, G. H. Miller and W. M. Fowler, Iowa City (J.A.M.A., Dec. 21, 1929), is localized in the epigastrium and often to the right and above the umbilicus. It may occur at intervals of from one to three hours after meals and is described as a sensation of fullness, burning or gnawing or a cramplike distress. These features of the discomfort resemble closely those of a peptic ulcer. They are, however, invariably associated with bowel symptoms, such as a feeling of fullness or even cramps over the lower part of the abdomen and the consciousness of gas. This distress is furthermore not always relieved by the taking of food or of sodium bicarbonate except when the latter is followed by the eructation of gas. It is relieved by the passage of gas by bowel and by bowel movement. It is intensified by any aggravation of the bowel condition and is most prominent when the stools are scybalous or pencil-like in character. It may be experimentally induced by the distention of the stomach with air or by inflation of the colon. Three cases are reported.

Clinical Value of Recent Advances In Gastric Analysis

Garnett Cheney, San Francisco (J.A.M.A., Dec. 28, 1929), urges that all patients suffering from gastro-intestinal disorders have their gastric secretion carefully studied. Such studies have not only given indications for satisfactory therapy but also disclosed fairly constant observations in certain common diseases. The frequency of high acidity in cases of peptic ulcer of the stomach make it a highly important diagnostic sign. It occurred in 96.4 per cent of 111 uncomplicated cases. Gastric acidity observations in gallbladder disease are of no positive diagnostic value, but excess of bile in the stomach is a frequent occurrence. Gastric secretion observations in cancer of the stomach may be highly characteristic and of great importance in differential diagnosis. As pernicious anemia occurs only in cases of true or complete achlorhydria, a histamine test meal is indicated in order to determine this diagnostic fact.

—R—

RELAXATIVES

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Electrocardiography in the Clinical Study of Heart Disease

H. E. MARCHBANKS, M.D., Pittsburg

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

I will not attempt to give a review of the literature on electrocardiography, but I do wish to say in the beginning that the books by Willius¹ of the Mayo Clinic, Pardee² of Cornell University, and Roth³ of Columbia University, are three very helpful manuals for those interested in the study of this subject.

To a great extent the early expectations of the use of the electrocardiograph have not been met. The interest, however, in the study of the heart that is created by the use of the electrocardiograph has made it a most valuable instrument of precision. The electrocardiogram furnishes very definite information about the heart that gives most valuable diagnostic and prognostic aid. The diagnostic aid is given in those conditions that can not well be made out by other methods.

rious deflections better than a regular record. This shows the impulse beginning at the sinoauricular node and is carried through the auricle to the auriculo-ventricular node where it is transferred to the ventricle and through the ventricle to be lost. Then another impulse begins again in the sinoauricular node, etc.

This drawing also shows the relation of the sounds of the heart to the contractions of auricle and ventricle.

Here we have the P wave which represents the spread of the contraction in the auricle. This is a comparatively slow contraction.

We then get a pause which represents the time required for the impulse to pass through the auriculo-ventricular node. This space plus the time of the P wave is called the P R interval.

We next have the Q R S group which represents the time the ventricle is contracting. There is only a short time used for this, since the Purkinje tissue takes up the impulse and spreads it over the whole ventricle in a comparatively short

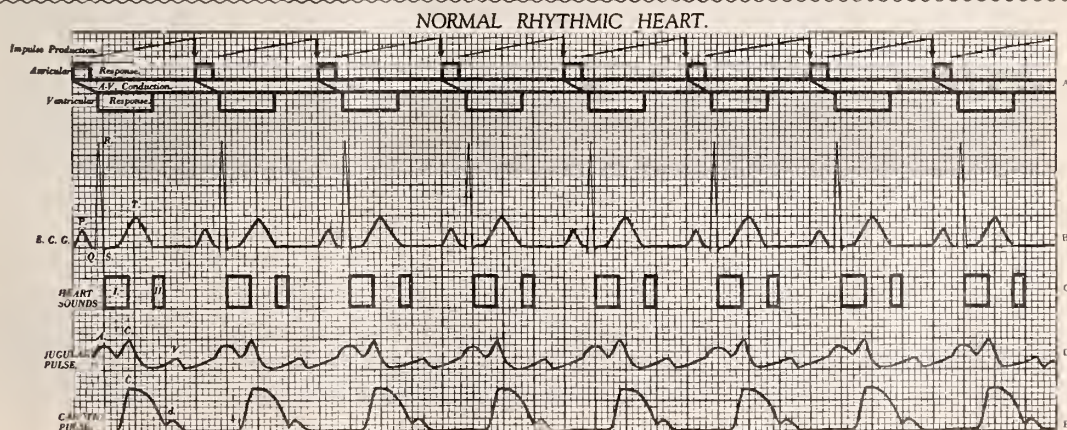


Fig. 1. Diagrammatic representation from Page 63 of Dr. Irving R. Roth's book on "Cardiac Arrhythmias," of a normal record. Explanation by Roth.

(A) Mechanism: Rhythmic production of the cardiac impulse; rhythmic auricular responses; A-V conduction time=0.16 seconds. Rhythmic ventricular responses.

(B) E. C. G.: Groups of normal complexes recurring rhythmically. P-R interval=0.16 sec. Q-R-S interval=.04 seconds.

(C) Heart Sounds. (D) Jugular Pulse. (E) Carotid Pulse.

I will now try to explain a diagrammatic representation by Roth of a normal record. I believe this shows the va-

interval—.05 to .07 second. Following this, while the intraventricular pressure is rising, the line of the record rests at

or near zero for a period and then the T wave is started. The T wave is perhaps the expression of relaxation in the ventricular muscle. This space is termed the S T interval and is from .24 to .28 second. Following the S is the first heart sound; the second sound follows the T.

As you remember, the five properties of the heart muscle are:

1. Rhythmicity,
2. Irritability,
3. Conductivity,
4. Contractility,
5. Tonicity.

The electrocardiogram is capable of demonstrating many of the defects in most of these properties. It is quite true that many times defects in the properties of the heart muscle can be diagnosed without the use of the record, yet frequently the diagnosis is a guess unless an electrocardiogram has been made.

With this explanatory introduction, I will now come to the subject of my paper.

tion, auricular flutter, bundle branch block, complete heart block, also angina pectoris and coronary disease.

Let me here review an outline of the arrhythmias:

1. Auricular arrhythmias, auricular extrasystoles, paroxysmal tachycardia, auricular incoordination, auricular fibrillation, auricular flutter.
2. Nodal extrasystoles.
3. Ventricular arrhythmias, ventricular extrasystoles, ventricular incoordination, bundle branch block.
4. True bradycardia.
5. Sinus arrhythmias.
6. Auriculo ventricular heart block, incomplete heart block, complete heart block, dissociation.
7. Other irregularities too infrequent to mention in a short discussion.

Extrasystoles are premature or ectopic beats that come through either from the ventricle or auricle or from the auriculo ventricular node. I will show hurriedly

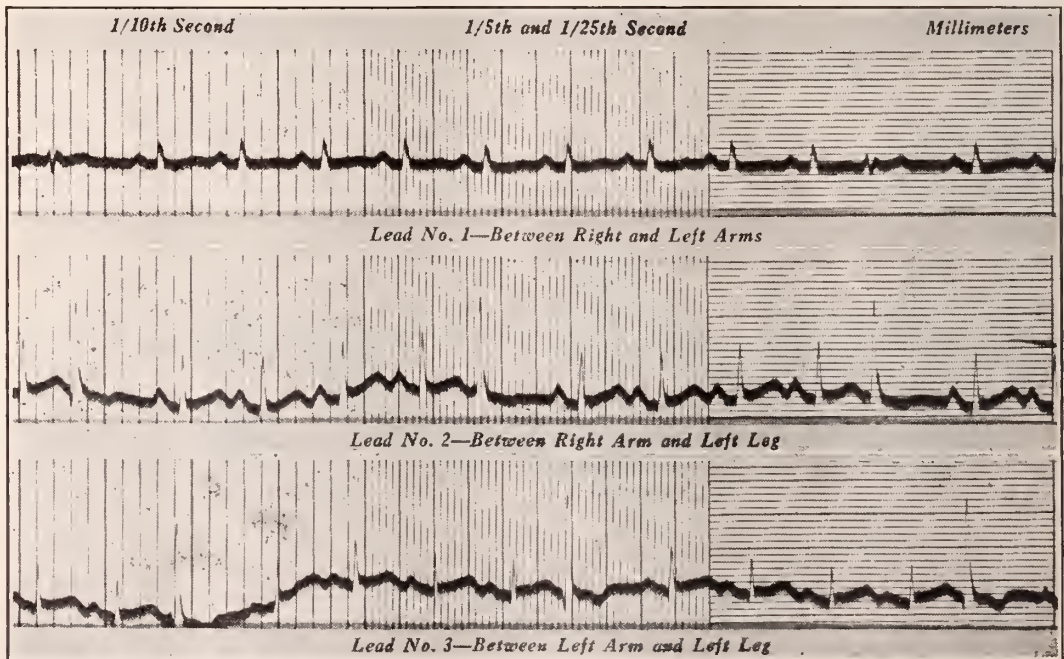


Fig. 2. Electrocardiographic record showing premature contractions occurring every fifth beat in leads II and III. Patient is a woman 46 years of age. Rate 132.

I must admit that the subject is most inclusive, but I will restrict my remarks to a few of the more common and perhaps the most important clinical myocardial extrasystoles, paroxysmal tachycardia, a-conditions, namely, the arrhythmias, including extrasystoles, auricular fibrilla-

two or three slides merely to contrast them with the more serious condition, auricular fibrillation, which I will show next. Most of these cases are symptom free with the exception that they can at times feel these irregular beats.

Throughout the paper I will give only

a brief history and the positive physical findings in order to save time and thereby be able to demonstrate more cases.

Auricular fibrillation is essentially due to any influence, toxic, nutritional, reflex, etc., which breaks up the simple, normal, single "circus" wave starting from the pace-maker by interfering with and blocking the propagation of the wave. The rhythm is wholly irregular. Dr. Spiro of California says that if one can not keep time with a pulse by the nodding of one's head then the arrhythmia is due to auricular fibrillation.

I will now show a group of auricular fibrillation cases:

Frank S., a miner, white, age 42. First seen October 31, 1927. Referred by Dr.

perfectly well otherwise. Onset of symptoms about July, 1922, but he did not pay much attention to it. Findings were: Infected tonsils. (Out in 1924.) Heart, "beef heart." Loud blowing systolic murmurs over whole heart. Regular boiler-works noise. Difficult to make out the sounds over any valve. Rate 120, irregular. Some difficulty with respiration at times only. Liver not palpable. No ascites. No swelling. Urine normal. Blood pressure 110-80. Wassermann negative. Blood chemistry normal. Died a cardiac death March 6, 1929. x-Ray of heart January 15, 1929. An electrocardiogram made January 24, 1928, shows a typical auricular fibrillation.

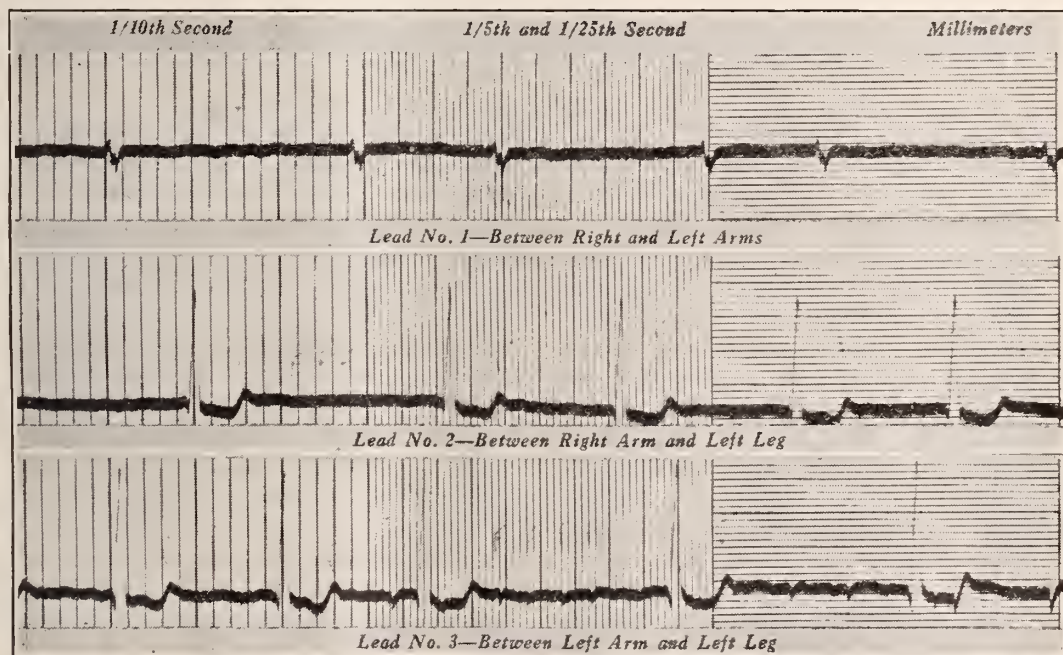


Fig. 4. Electrocardiogram showing coarse auricular fibrillation and right ventricular preponderance. Record made 1-24-28. See Fig. 3 for x-ray of heart of same patient made one year later. Patient a man 25 years old. Mr. B. G. He died March 6, 1929.

Benage. Complaining of weakness and shortness of breath. I was called only for the electrocardiographic interpretation, so did not get a complete history. He was seen by me, however, in 1923 and was diagnosed auricular fibrillation with mitral stenosis, at that time. No other findings noted.

B. G., business college student, male, white. Age 19 (in 1922). First seen December 15, 1922. Referred by Dr. C. A. Smith. Complaining of shortness of breath on exertion. Easily fatigued. Felt

Mrs. V. J. Housewife. White. Age 54. First seen January 31, 1928. Referred by Dr. Parrish. Complaining of shortness of breath. Edema. In November, 1927, she took sick and had not been well since then. Had shortness of breath at that time. Had been large for the past 30 years and not well for last several years. Could not eat for food seemed to crowd her heart. Well, except for obesity prior to these last few years. Mother of eleven children. Findings: Very cyanosed. Did not examine her well due to

her extreme illness. Could not make out much in chest for same reason. Pulse rate 104, wholly irregular. Respiration labored. Very cyanotic. Liver could not be made out. Abdomen large and apparently full of fluid. Edema of legs. Urine had 4+ albumen, casts and pus cells. Blood pressure was 100-85. Wassermann not done. Blood chemistry—CO₂, 24.5 vol. per cent. N. P. N. 60 mg. Uric acid 5.6 mg. Electrocardiographic record made January 31, 1928, shows auricular fibrillation. Died February 2, 1928, on the third hospital day without much change in condition at any time.

Mrs. J. R. K. White. Lives with daughter. Age 64. First seen August 27, 1926. Complaining of shortness of breath, cough and some cold in her chest. Has had some shortness of breath for a number of years, but worse since she had her cold in chest. Coughs quite a lot. This is worse after eating. Since that time she has been given digitalis and quinidine in fairly large doses, but her heart remains irregular and is fast most of the time. No symptoms of heart failure except the shortness of breath. She has always been quite a frail little woman, but always able to be about and help with the work. Findings: Has had quite marked bronchitis on two or three different occasions. Bronchial pneumonia last winter. Heart small in size. No murmurs. Sounds difficult to differentiate due to the high rate of speed. Rate 144. Wholly irregular. Respiration labored as a rule. Liver not palpable. Ascites none. Swelling none. Urine normal. Blood pressure 190-110. Wassermann negative and blood chemistry normal. Electrocardiographic record December 20, 1927, shows auricular fibrillation. At the present time she gets about the house. No edema. Rate between 120 and 140.

Mrs. E. P. Housekeeper, white. Age 76. First seen April 20, 1928. Complaining of shortness of breath, weakness, swollen legs, frequent, painful urination, nervousness, poor appetite. She began to feel badly soon after working in the garden about a week or 10 days before I saw her. Her daughter said she had had heart trouble for 20 years or more. Findings: Teeth out. Heart enlarged to left.

Systolic murmur at apex. Sounds wholly irregular. Could not differentiate sounds well. Rate 144, irregular. Respiration labored, at times quite marked. Liver is very large, extending below the umbilicus. Some ascites. Very marked edema of legs and even of body up to umbilical region. Urine had small amount of albumen—it was 4+ at first. Blood pressure 180-120. Wassermann negative and blood chemistry within normal limits. Electrocardiographic record April 30, 1928, shows auricular fibrillation. She died November 26, 1928.

J. G. Works at steam shovel. White. Age 40. First seen October 6, 1926. Complaining of shortness of breath. Had gone through an acute heart attack in the Navy. This was perhaps acute rheumatic fever, although the record was not obtained. Had been fairly well until his attack in the navy. Findings: No infections. Heart, systolic and diastolic murmurs at apex. Accentuated second sound. Rate 72, irregular. Respiration not remarkable. Liver not tender. Ascites none. Swelling none. Urine negative. Blood pressure 124-80. Wassermann negative. Blood chemistry normal. Electrocardiographic record January 14, 1929, shows auricular fibrillation. Has been able to work fairly well at manual labor, but his auricular fibrillation continues.

Mrs. J. V. Housewife. White. Age 42 (1926). First seen September 14, 1926. Referred by Dr. C. A. Smith and Dr. Parrish. Complaining of weakness, shortness of breath, swelling of feet when up and about, headache, pain in left lower quadrant, cold clammy sweats. Had not been well for the past six months, and had been in bed for three months with the above symptoms. Had some chills and fever when she first took sick. Mother of nine children, youngest three and one-half years old. She had never been sick prior to this illness, but had had bad teeth a long time. Findings: Numerous infected teeth. Heart normal in size or practically so. Systolic murmur heard over whole heart area. Sounds difficult to differentiate, apparently one sound. Rate 130+, irregular. Respiration, peculiar sighing at times. Could lie flat in

bed. Liver not palpable. Ascites none, then. Swelling none. Urine negative. Blood pressure 170-80. Wassermann not done. Blood chemistry within normal limits. She was given quinidine, 5 grains every three hours, and pulse became regular in about four days and remained so while in the hospital. She left the hospital and stopped quinidine. Electrocardiographic record on May 18, 1928, showed auricular fibrillation. Pulse rate 180. She has been in the hospital on numerous occasions since, but has never been regular again. Anasarca once relieved by digitalis and quinidine. She was seen April 12, 1929. Pulse 108-144, irregular. No edema. In bed constantly.

Mr. E. M. S. Bookkeeper. White. Age 61. First seen October 15, 1923. Referred by Dr. C. A. Smith. Complaining of shortness of breath, pain in left chest, hard coughing spells, sleeplessness, swollen legs. Present symptoms began about three months before he was first seen by me. First he had shortness of breath and later the other symptoms gradually followed. Had always been quite well prior to present illness. Findings: Pyorrhea. Doubtful tonsils. Heart, systolic murmur at apex. Rate 124-148, wholly irregular. Respiration, had to sit up to breathe. Asthmatic in character. Liver palpable and tender. Ascites quite marked. Legs and scrotum and abdominal tissue swollen. Urine 2 mm. ring albumen. Blood pressure 180-108. Wassermann negative. Blood chemistry normal. This man was given large doses of digitalis and by October 25, 1923, his pulse was entirely regular and his symptoms were gone, and he was discharged November 18, 1923, free from symptoms. He was seen from time to time, about once in two years from then until on January 21, 1929, at 11:25 p. m., (five years and three months after his first visit to my office), while at his home in Acme, Wyoming; he had a pain in his left abdomen. A half hour later it went to the right abdomen and a little later the pain left the abdomen and went to his right hip. Pain continued in right hip until morning. Hip remained sore and abdomen was likewise a little sore. A local physician was called, who made a diag-

nosis of appendicitis. An hour later the patient was on his way to Kansas. After the first night he experienced a gripping pain quite frequently in the left chest, and he would have to sit up with it. There was no pain, however, in left shoulder. No swelling and no great shortness of breath. When I saw him, February 4, 1929, he had a blood pressure of 170-100 and a wholly irregular rate of his heart beat. Electrocardiographic record on February 5, 1929, shows auricular fibrillation with ventricular rate 92. Another record on February 18, 1929, rate 80. I have given him rest and digitalis in large doses without results. I then gave him quinidine until symptoms of overdose made us quit. Then I put him back on digitalis but still we have the auricular fibrillation. This is an example of how easy it is to cure auricular fibrillation one time and how almost impossible it is to get a regular rate at a second time.

Mrs. P. T. E. Housewife. White. First seen February 20, 1929. Referred by Dr. H. H. Bogle. Complaining of shortness of breath. This patient was referred for electrocardiographic record only.

This next case is one that might be confused with paroxysmal tachycardia. It is, however, an auricular fibrillation with coarse fibrillations.

Mr. L. Shoemaker. White. Age 56. First seen August 21, 1928. Complaining of stomach trouble and palpitation. Stomach seemed to get full of gas at times and press on his heart. This, he said, makes his heart beat faster. Last attack started on the morning of entrance, and was still on when we saw him. No nausea. The attacks date back to 1919 when he had an attack of "flu." Always quite well except acute rheumatism 1898-1900. Findings: Several snags of teeth. Submerged tonsils. Heart apparently normal in size. First sound wholly replaced by blowing systolic murmur over aortic region. Systolic murmur at mitral area. Accentuated second. Difficult to state whether first or second sound was obliterated. Hard to differentiate first and second sounds. Blowing systolic murmur heard over pulmonic and tricusped areas. Second sound quite weak. An electrocar-

diographic record on August 20, 1928, showed fast auricular fibrillation. Ventricular rate 132. Respiration not bad. Liver not palpable. Ascites none. Swelling none. Urine negative. Blood pressure 80 to 100 over 60 to 66. Every third or fourth beat could be heard at 100. Wassermann negative. Blood chemistry normal. Next day we took another electrocardiographic record that was practically normal. Rate 72 and regular.

These next two cases might be diagnosed auricular flutter. I believe, however, as does Willius, that they are cases of auricular fibrillation.

Miss M. Teacher. White. First seen August 8, 1928. Referred by Dr. Hartman. Complaining of shortness of breath and rapid pulse. Referred only for electrocardiographic record. She died, however, April 14, 1929.

Findings: Heart not enlarged. No murmurs. Sounds faint. Rate 208. Respiration shallow. Liver not palpable. Ascites none. Swelling none. Albumen in urine. Blood pressure 80-70. Wassermann negative. Blood chemistry normal. The following day the rate was down to 144. By January 28, 1929, normal rhythm. He gradually improved, but his mental condition was not good.

The discovery of the genetic system, or conduction system, of the heart has given a much clearer conception of the manner of contraction of the auricle and ventricle. Yet, after all, the explanation given does not make the subject altogether understandable.

I want to show two plates from Sir James Mackenzie's "Diseases of the Heart." The plates show dissections of the right and left ventricles which visual-

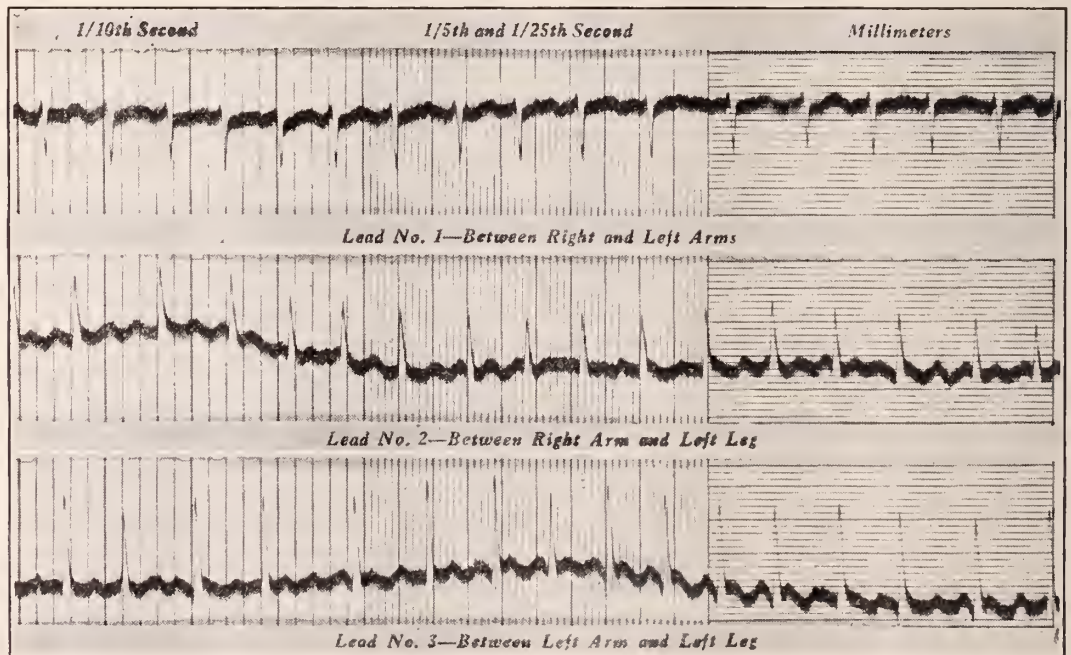


Fig. 5. Electrocardiographic record showing a fast auricular fibrillation. Ventricular rate 166. Patient Miss M. Age 54. She died 8 months later.

Mr. S. A drayman. White. Age 69. First seen January 12, 1929. Referred by Dr. C. H. Smith. Had been operated upon for inguinal hernia two days before. "Went bad" at 4:30 a. m. Electrocardiographic record taken a few hours later showed a fast auricular fibrillation. Pulse was difficult to feel. Felt well on day before. No history of heart trouble.

ize the ventricular conduction system.

The conduction system consists of:

The sino-auricular node, which we can not show here.

The auriculo-ventricular node.

The auriculo-ventricular bundle or bundle of His.

The right and left branch of the auriculo-ventricular bundle.

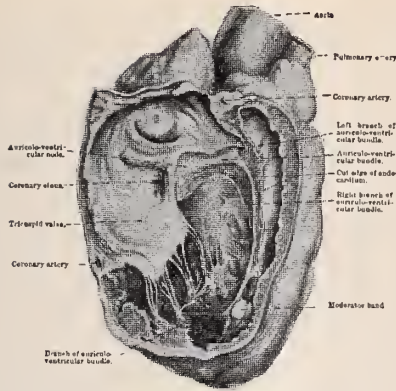


Fig. 6. Dissection from Sir James Mackenzie's "Diseases of the Heart," Page 87, showing the origin of the auriculo-ventricular bundle and the course of the right branch in the right ventricle. The anterior and lateral walls of the right ventricle have been removed as well as a portion of the tricuspid valve.

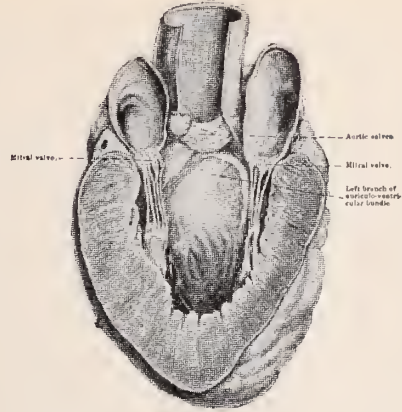


Fig. 7. Dissection from Sir James Mackenzie's "Diseases of the Heart," Page 88, showing the left branch of the auriculo-ventricular bundle. The posterior wall of the left ventricle has been split open, the incision passing up through the left auricle and aorta. The cavity of the left ventricle is exposed.

The Purkinje fibers.

Next I wish to show you some slides from a group of very interesting cases of bundle branch block. These are all complete or incomplete right branch blocks and have been observed over periods of from six to thirty-four months. I have never seen a left branch block. Willius⁶ has stated that right branch block appears about 16 times as often as left branch block. The anatomical make up of the two branches is no doubt responsible for this.

Dr. John T. King⁴ of Baltimore, in the June, 1928, number of the American Heart Journal, discussed very clearly the "Clinical Recognition and Physical Signs of Bundle Branch Block." In this very excellent article Dr. King brought out the fact that nine out of one hundred heart patients seen consecutively in the hospital wards and dispensary of Johns Hopkins Medical School had bundle branch block.

I will not discuss the signs as described by King, because I have been unable in the greater number of my cases to visualize or palpate the "bifid apex thrust" that he describes. I was also unable in most of them to distinguish the "feeble heart sound, with a sound and an asynchronous murmur accompanying the two elements of the systolic thrust." In the future, however, I will be more painstaking and will endeavor to find

these valuable signs that have been studied and so ably described by King.

Most clinicians are of the opinion that bundle branch block can usually be diagnosed only by the aid of the electrocardiogram. I am quite sure that I, myself, can only guess at the diagnosis without the electrocardiographic record.

Bundle branch block is characterized by a Q-R-S interval which is at least 0.1 second in width. By a T wave which is deflected opposite to the main or R-S deflection in all leads and by evidence of either right or left ventricular preponderance. That ventricle preponderates through which the impulse to contraction follows normal paths, hence left ventricular preponderance is found in right bundle branch block and vice versa.

One is impressed with the fact, however, after seeing the electrocardiographic records on these patients, that former patients, seen prior to his use of the instrument, were perhaps cases of bundle branch block. I have in mind a great many patients with heart failure that I had observed over a period of months that had very little to be found in the examination of the heart except the bifid apex thrust and a somewhat enlarged left ventricle.

The first patient: Mrs. F. W. W. Housewife. White. Age 62. First seen July 18, 1927. Complaining of weakness, poor appetite, nervousness. Some short-

ness of breath on exertion. Nycturia two or three. Sugar was found in urine, 1919, and has been present since. She was under my care for diabetes when in January, 1928, she had an attack of pain in left chest, radiating to left shoulder and arm. Has been weak and short of breath since then and needs several pillows at night. Has had rheumatism more or less all of her life. Diabetes for eight years. Findings: Teeth all out. Tonsils not good. Heart apparently normal in size. No murmurs. No accentuated sounds. Rate 100. Respiration somewhat difficult. Unable to palpate liver, although abdomen tense. No ascites made out. No swelling. Urine, sugar 8 per cent, albumen 3+. Casts, hyaline and granular. Blood pressure 160-98. Wassermann negative. Blood chemistry, B. S. 363 mg. N. P. N. 42 mg. CO₂ 57.34 vol. per cent. Patient has difficulty in sleeping and is extremely short of breath. Electrocardiographic record made July 17, 1928, shows very definite complete right bundle branch block.

Mr. J. H. E. Salvation Army. White. Age 56. First seen May 10, 1928. Referred by Dr. C. H. Smith. Complaining of shortness of breath and weakness. Unable to lie down to sleep. Had felt badly since February when he was diagnosed "flu" but had gone about his work until the last few days when he could not lie down to sleep. Getting gradually worse and very uncomfortable. Thought he had asthma. Had been quite well until recently. Findings: Teeth not good. Heart enlarged to left outside of nipple line. Impulse felt in seventh interspace. Systolic murmur at apex. Gallop rhythm. Perhaps the bifid sound of King. Rate 120. Respiration quite labored. Not so bad when sitting. Liver palpable two cm. below costal margin. Ascites none. No swelling. Urine negative. Blood pressure 100-60. Wassermann negative. Blood chemistry not remarkable. Have not heard from him since he went to Wichita. Electrocardiographic record made May 10, 1928, shows a complete right bundle branch block.

Mrs. J. J. W. Housewife. White. Age 68. First seen July 25, 1928. Complaining of smothering sensation, sleepless-

ness, nycturia one to four. Two nights before entrance, while at a touring camp 100 miles west of here, she had an attack of severe smothering. A sensation of squeezing together of the walls of her chest. Her husband had to stand and hold her up all night. No help was available so that was the only way she could live. Had had some fluttering of her heart before this. Also some pain in left chest at times. Swelling of legs. Findings: Heart enlarged to left. Extra systoles. Sounds rather weak. Reduplicated first at mitral area. Rate 88. Respiration little labored. Liver not palpable. Ascites, none. Legs swollen from knees down. Only a few casts in urine. Blood pressure 190-110. Wassermann negative. Blood chemistry within normal limits. Rests better but does no exercising. Has had no more attacks. (Blood pressure 150-100.) Electrocardiographic record made July 28, 1928, shows auricular fibrillation, complete right bundle branch block and extrasystoles. A record made April 20, 1929, shows the same thing.

Mr. S. M. R. Farmer. White. Age 74. First seen August 16, 1928. Referred by Dr. C. H. Smith. Complaining of shortness of breath, weakness. Had to sit up at night to get his breath. Nycturia, several. About four weeks previous when he was plowing he first began to complain of weakness and shortness of breath. Had steadily become worse. Uses several pillows to sleep on. Heart began to bother him three years ago after a building fell down on him. Rheumatism some years ago. Findings: Teeth snags, and tonsils bad. Heart enlarged to the left. Murmurs, none. Second sound faint at mitral area. Rate 84. Respiration difficult. Liver palpable 4 cm. below costal margin. Ascites, little if any. Legs pitted some. Urine had trace of albumen. Blood pressure 190-130. Wassermann negative. Blood chemistry within normal limits. The prognosis was not flattering and the patient was not advised to take much treatment. The electrocardiographic record made August 16, 1928, shows complete right bundle branch block. He died December 16, 1928.

Mr. R. S. M. Traveling salesman. White. Age 59. First seen June 27,

1926. Complaining of pain in left chest. block. Electrocardiographic record made
Came on just as he reached home from April 27, 1928, is very similar.

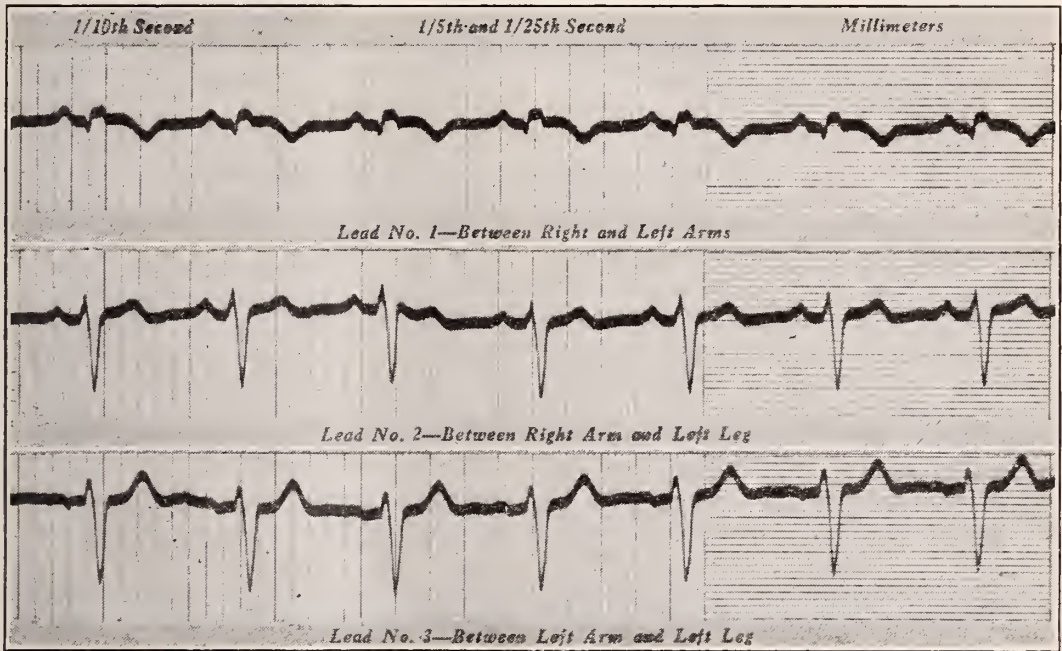


Fig. 8. Electrocardiographic record showing complete right bundle branch block. Rate 68. The patient Mr. R. S. M., 51 years of age, had attack of heart pain (perhaps coronary disease) 16 months previous to this record. Patient is still able to drive his car although he does not work.

an auto trip in which he had to change a tire. Pain was severe. Caused shortness of breath. Some relief by hypo and quite complete with amyl nitrite. Following this attack on July 20 he had a phlebitis. Was in bed with this a long time but finally had quite complete recovery. Went back to work but had numerous attacks of pain in chest that would almost make him fall. He was advised to get out of the work for fear he would kill himself with his car in an attack. Has very light attacks now, but he carries amyl nitrite and nitro glycerine tablets with him and gets instant relief from them. Had always been well prior to June 27, 1926. Findings: Teeth all out. Submerged tonsils. Heart normal in size. Murmurs, none. Sounds, normal. Rate 92. Respiration fairly normal after attack was over. Liver not palpable. Ascites, none. No swelling. Urine negative. Blood pressure 80-60. Wassermann negative. Blood chemistry within normal limits. Feels quite well at present. Electrocardiographic record made October 22, 1927, shows complete right bundle branch

Mrs. M. E. Housewife. White. Age 55. First seen September 24, 1927. Referred by Dr. C. H. Smith. Complaining of shortness of breath either on exertion or when quiet. Took sick with "flu" several weeks before entrance, followed by bronchitis which persisted. Felt better after she took laxatives. Shortness of breath and asthmatic symptoms had been present for past several days with quite rapid progress. Had always been quite strong prior to this illness although not especially large of stature. Findings: Bronchitis. Heart not enlarged at that time. No murmurs. Accentuated aortic second. Rate 102. Respiration difficult. Mass palpable in liver region which feels quite movable but is perhaps liver. Ascites, none. Swelling, none. Urine normal. Blood pressure 120-90. Wassermann negative. Blood chemistry, N. P. N. 40 mg. CO₂ 31.1 vol. per cent. She died, April 23, 1928, after being in bed quite constantly most of the time after leaving the hospital. Electrocardiographic record taken December 2, 1927, shows absent T in all leads. Marked tachycardia. The

one made February 17, 1928, shows complete right bundle branch block.

Mr. J. S. R. Mail carrier. White. Age 62. First seen December 5, 1927. Referred by Dr. C. A. Smith. Complaining of shortness of breath, weakness. Cheyne Stokes respiration for past several weeks. Digestion quite good. Eyes been causing some trouble. High blood pressure for past three years. Been up and down for past eight months, although he worked until about four months ago. Some rheumatism in past. Always been overweight. Quite well until three years ago. Findings: Teeth all out. Tonsils submerged. Heart enlarged to left. Apex beat felt at outer edge of chest 2 cm. to left of nipple line. Systolic murmur at apex. Reduplicated first at mitral area. Extrasystole. Respiration, Cheyne Stokes. Liver palpable 3 cm. below costal margin. Ascites, none. Slight swelling below knees. Urine essentially normal. Blood pressure 210-134. Wassermann negative. Blood chemistry within normal limits. Died at his home January 12, 1928. His record is not a perfect bundle branch record, since the Q R S deflection is upright and usually it is inverted. I think,

however, it is a right bundle branch block with perhaps more involvement of the coronaries than is usual. It should then be termed incomplete bundle branch block.

Mr. J. H. Gas inspector. White. Age 59. First seen March 25, 1927. Complaining of shortness of breath when he stoops over. On June 15 he was short of breath on exertion and thought he had asthma. At this time he consented to go to bed. On July 4th he had a most severe attack of coronary occlusion and when I saw him I thought he would surely die. Pale and clammy. Amyl nitrite and hypo gave some relief. Kept in bed for several weeks and then he got up for awhile and tried to work, but again went down. He had Cheyne Stokes respiration when asleep. Had to sit up to rest and finally needed full H.M.C. to get any rest at all. Had severe tonsilitis about four months before his first symptom. Findings: Heart markedly enlarged to right and left. (Ox heart.) Systolic murmur heard over whole pericardium. Second aortic sound accentuated. Rate 84. Respiration, Cheyne Stokes when asleep. Liver palpable 6 cm. below costal margin. Ascites

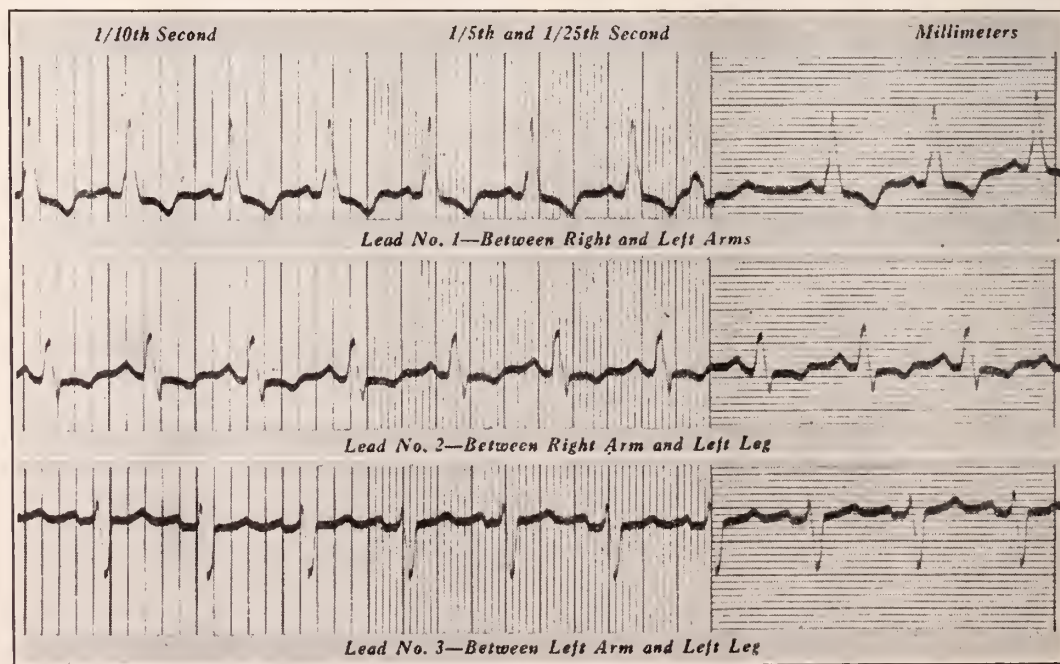


Fig. 9. Electrocardiographic record of Mr. J. B., showing complete right bundle branch block with coronary occlusion. Rate 100. Patient was 53 years old. Attack of heart pain (coronary occlusion) 4 months prior to this record. He died 3 months later.

at the end. Swelling marked, late. Urine had albumen and casts. Blood pressure 80-60. Wassermann negative. Blood chemistry normal. Died February 6, 1928. This chest plate was made when he was first seen and shows marked hypertrophy. The electrocardiographic record made November 10, 1927, shows complete right bundle branch block.

Mr. H. B. L. A painter. White. Age 54. First seen January 19, 1929. Complaining of pain in epigastrium, which began two days before coming into hospital. Had been diagnosed indigestion with possible gall stones at time of attack. Rapid pulse and weakness followed. He has always worked as a painter at fairly hard work, but has been fairly well all his life, although never very robust. Had had pyorrhea and infected teeth until a few years ago when the teeth were all removed. Findings: Teeth all out. Tonsils submerged. Heart enlarged some to the left. No murmurs. Accentuated mitral second. Rate 210. Respiration labored. Some tenderness in liver region. Liver not palpable. Ascites none. Swelling none. Urine normal except occasional hyaline cast. Blood pressure 90-76. Wassermann negative. Blood chemistry, N.P.N. 30 mg. His pulse settled down and he felt quite well when he left the hospital. Tried to do some painting about the house, which made him short of breath. He became unable to lie down, had to sit up to sleep. The record made January 21, 1929, is a very fast auricular fibrillation. This one on January 28, shows an incomplete right branch block. This one made on February 22 shows the right bundle branch block still incomplete with Q-R-S in lead I only .07 second in length.

Mr. W. G. K. Steam shovel runner. White. Age 50. First seen February 13, 1928. Complaining of rapid pulse and shortness of breath on least exertion. In bed for eight weeks. Used three pillows to sleep. Gas on stomach. First heart attack two years previous and another one a year later. First one lasted six weeks. Second one two weeks. He felt quite well after these attacks. Had had the above symptoms for the past eight weeks. They came on quite gradually

and finally made him go to bed. Had tonsillitis four years ago, no rheumatism, however. Findings: Several dead teeth. Heart enlarged to left. Systolic and diastolic murmurs at apex. First sound accentuated at apex. Rate 96. Wholly irregular. Auricular fibrillation. Mitral stenosis. Respiration fairly good while sitting in a chair. Liver palpable 2 cm. below costal margin. Ascites, none. Swelling, none. Urine normal. Blood pressure 100-80. Wassermann negative. Blood chemistry normal. Feels well but have advised him to do only very light work. No exercising work at all. The electrocardiographic record made February 14, 1928, shows auricular fibrillation. One made February 22 shows the auricular fibrillation cleared up with an incomplete bundle branch block. One on March 5, 1928, shows complete right bundle branch block. One on June 6, shows auricular fibrillation again which followed a day at work against our advice. One on June 13, shows normal rhythm established. This one made on April 19, 1929, shows auricular fibrillation in lead I. Auricular flutter with 2:1, 3:1, 4:1, 5:1 block in leads II and III. It became regular soon after this was made.

Mr. F. B. Garage mechanic. White. Age 66. First seen March 28, 1929. Referred by Dr. Devilbis. Complaining of shortness of breath, weakness. Felt fairly well until about three weeks before entrance when above symptoms gradually kept him from work. Had similar attack two years ago but seemed to get well from it. Was diagnosed diabetes. Findings: Very bad teeth and gums. Heart enlarged to left. No murmurs. Accentuated second at tricuspid area. Rate 70-92. Cheyne Stokes respiration. Liver enlarged 12 cm. below costal margin. Ascites, none or very little. No swelling. Albumen 34. Hyaline casts +. Blood pressure 200-140. Wassermann negative. Blood chemistry: Urea N. 50 mg. This electrocardiogram was made March 29, 1929, and shows a complete right bundle branch block. He died April 1, 1929.

I believe I can better demonstrate partial heart block and complete heart block, or Adams Stokes' disease by the use of



Fig. 10. Electrocardiographic record of Mr. W.G.K., showing coarse auricular fibrillation, left ventricular preponderance, inverted T in lead I. Aberrant Q-R-S in all leads. Q-R-S .1 second. (Right bundle branch block.) Patient 50 years old. Rate 80. Feb. 14, 1928.

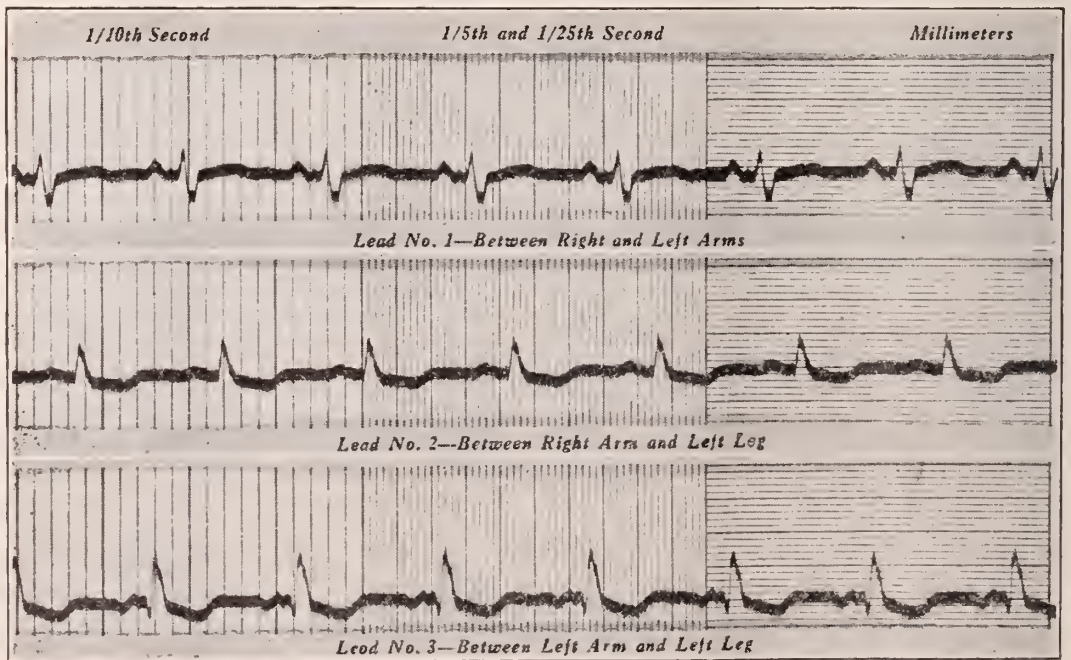


Fig. 11. Electrocardiographic record of Mr. W. G. K. made 8 days after previous record which normal rhythm after use of quinidine sulphate. The Rs and Ts are deflected in opposite directions to what they were in Fig. 10. Rate 72. Feb. 22, 1928.



Fig. 12. Electrocardiographic record of Mr. W. G. K. made 3 months after Fig. 11 on the day after he tried to go back to work against our advice. Record shows coarse auricular fibrillation with right bundle branch block. Patient age 50 years. Rate 60 to 84. June 6, 1928.

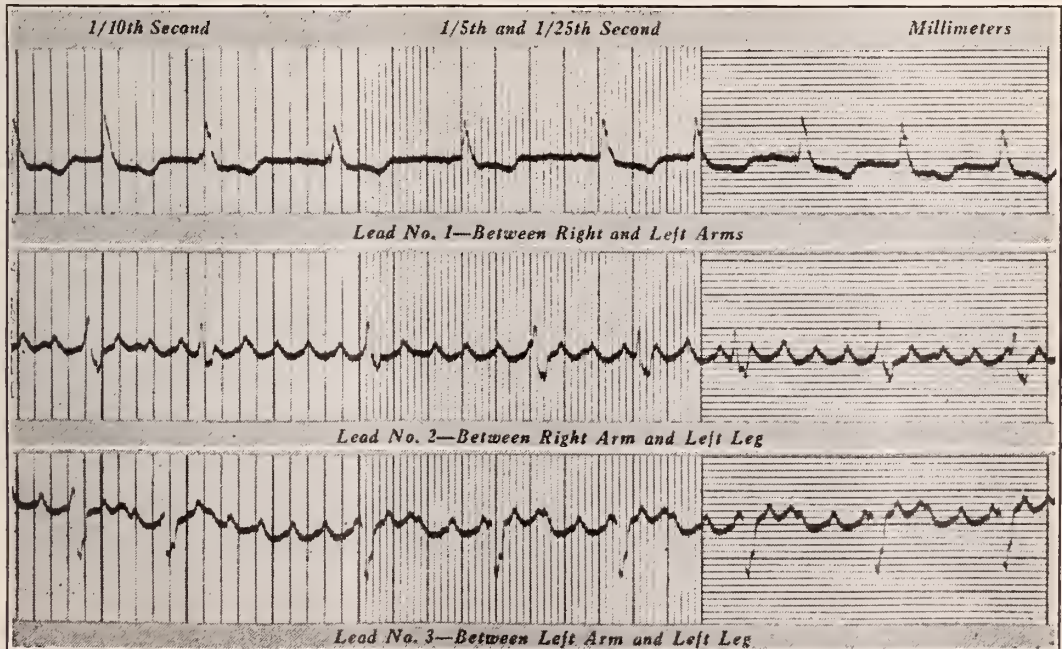


Fig. 13. Electrocardiographic record of Mr. W. G. K. made 10 months after Fig. 12, shows auricular fibrillation with ventricular rate of 92 in lead I and auricular flutter with 2:1; 3:1; 4:1 and 5:1 block in leads II and III which were taken immediately after lead I. Vent. rate 92. Auricular rate 320.

two of Roth's drawings than I can by any of my own tracings.

This slide is Roth's diagrammatic representation of partial ventricular heart block. This upper line shows the rhythmic impulse production with the

rhythmical auricular response. Alternate auricular stimuli are blocked at the auriculo ventricular junction, making a rhythmic bradycardia of the ventricles. The second line shows slight prolongation of the P-R interval. In alternate cycles the P wave is blocked.

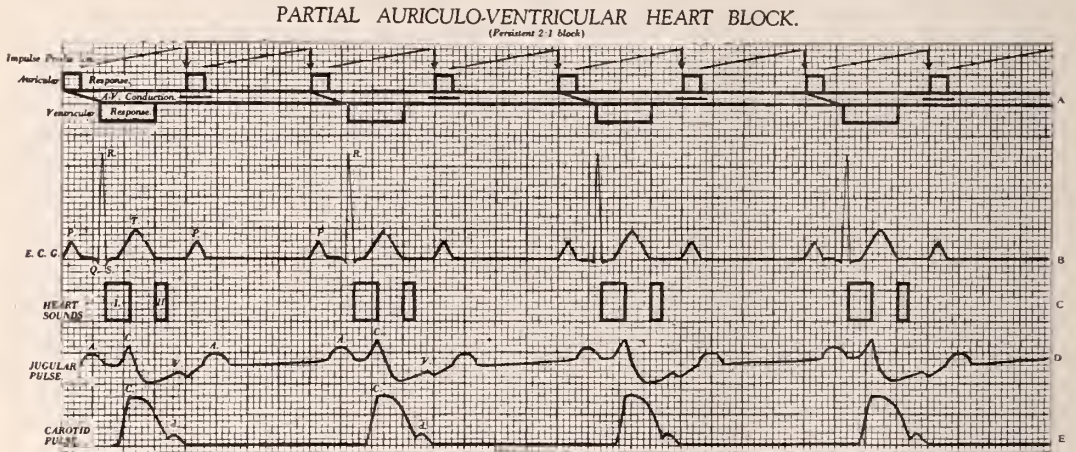


Fig. 14. Diagrammatic representation from Page 91 of Dr. Irving R. Roth's book on "Cardiac Arrhythmias" of a Partial Auriculo-Ventricular Heart Block. Explanation by Roth.

- (A) Mechanism. Rhythmic impulse production: rhythmic auricular responses. Alternate auricular stimuli are blocked at the A-V junction causing a rhythmic bradycardia of the ventricles.
- (B) E. C. G.: Slight prolongation of P-R interval: in alternate cycles the P waves are blocked as in P₂, P₄, P₆ and P₈.
- (C) Heart Sounds. (D) Jugular Pulse. (E) Carotid Pulse.

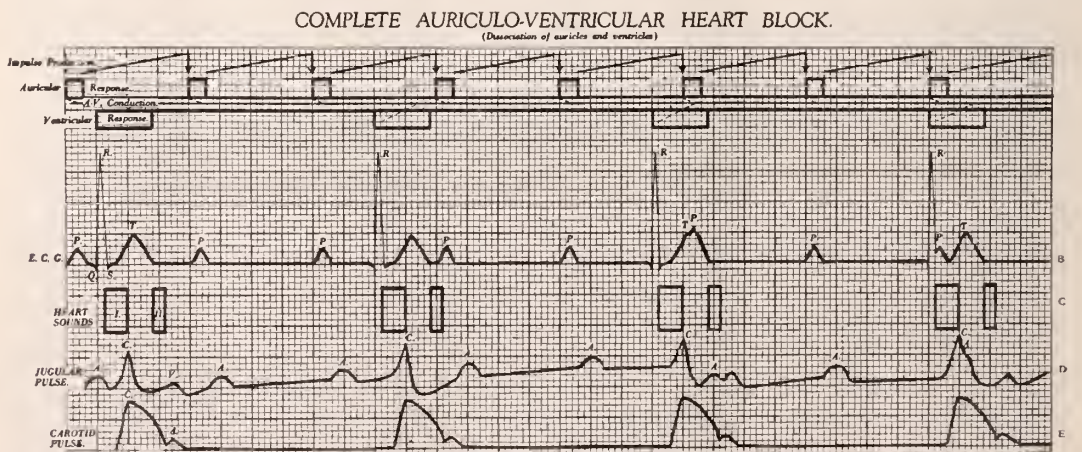


Fig. 15. Diagrammatic representation from Page 93 of Dr. Irving R. Roth's book on "Cardiac Arrhythmias" of Complete Auriculo-Ventricular Heart Block. Explanation by Roth.

- (A) Mechanism: Rhythmic impulse production: rhythmic auricular responses. There is complete interception of all impulses at the A-V junction. The ventricles beat slowly and regularly. There is no numerical relation between auricular and ventricular responses.
- (B) E. C. G.: P-R interval $\frac{4}{5}$ sec. R-R interval $\frac{9}{5}$ sec. The P waves bear no relation to the R waves. The two at times accidentally coincide.
- (C) Heart Sounds. (D) Jugular Pulse. (E) Carotid Pulse.

This slide is Roth's diagrammatic representation of complete auriculo ventricular heart block.

This upper line shows the rhythmic impulse production, the rhythmic auricular responses. There is, however, complete interception of all impulses at the auriculo ventricular junction. The ventricles beat slowly and regularly, but with no numerical relation to the auricular beats. The same thing is shown in the second line. At times the two occur at the same time.

The next and last condition that I wish to discuss is disease of the coronary arteries. This disease has recently taken quite a prominent place in clinical medicine. I will not attempt to review the literature on this subject, because it is too voluminous. For the same reason I will not discuss the subject at very great length.

Whether it is the stress of the times or whether it is the recent addition of years to man's span of life that has made the disease more frequently seen can only be guessed at. Be the cause what it may, we are seeing a great many cases that are, at least clinically, cases of coronary disease. It has been shown pathologically that the coronary arteries may be diseased while all other parts of the vascular system are unaffected.

Riesman⁵ classifies coronary disease from the anatomical point of view as follows:

- a. Sclerosis-coronary endarteritis,
- b. Thrombosis with or without complete occlusion,
- c. Embolism.

The clinical symptoms may be produced in one of three ways:

1. Sudden blocking of flow by embolism or thrombosis,
2. Narrowing of lumen by endarteritis.
3. By spasmodic closure.

Some of the causes of coronary disease are:

1. Syphilis,
2. Focal infection,
3. Over-eating, or obesity,
4. Mental strain,
5. Physical strain,
6. Heredity.

Symptoms:

1. First the patient is usually a male over 45 years of age,
2. Patient is seized with an unendurable pain in his chest, precordial usually, but might be any place in the chest,
3. The patient has a fear of impending death,
4. Ashen hue to the face and usually a cold sweat,
5. Pain in left shoulder down left arm that is most severe. May be in both shoulders and arms,
6. Usually produced by exertion,
7. Usually relieved by rest,
8. May need nitro-glycerine, amyl nitrite or morphine in large doses to relieve the pain,
9. May be other symptoms, but these are the usual ones.

The treatment:

1. Use of drugs mentioned before for immediate relief,
2. Rest in bed for several weeks following attack. Restricted activities for the rest of his life,
3. Such drugs as euphyllin to increase the blood supply of the heart are being used now with a fair degree of success.
4. Care of gastro-intestinal tract and regulation of the diet.
5. I will say nothing of the surgical treatment.

The electrocardiographic characteristics are:

- 1st. Inverted T in lead I,
- 2nd. Inverted T in lead II,
- 3rd. Inverted T in leads I and II,
- 4th. Inverted T in leads II and III,
- 5th. Inverted T in leads I, II and III.

The T wave is affected by digitalis, quinidine and morphine and perhaps other drugs.

I will present a few cases and show the electrocardiographic records of them. I have a few cases that demonstrate the fact that the time to make records is not at the time of the angina attack, but from five to ten days after the attack.

G. H. R. Farmer. White. Age 68. First seen January 22, 1925. Complaining of stomach pain, rheumatism, pain in chest and pain in head, drowsiness. In July, 1923, had had a sharp pain in stomach which was diagnosed gastritis. Had hypo for relief, but pain lasted

about six hours. Felt weak the next day, but was up and about. Had had a lot of dizzy spells. Symptoms had been dizziness, pain in head and indigestion more or less since then. In December, 1926, he was complaining of pain in left chest and difficult breathing when he would lie down. Sat up to get relief. Since then he has been getting gradually worse and has quite acute substernal pains at times. Findings: No infections found. Heart enlarged some to left. No murmurs. Accentuated first sound at apex. Rate 72. Respiration, sits up to breathe. Liver not palpable. Ascites, none. Swelling, some of late. Urine fairly normal. Blood pressure 220-140. Wassermann negative. Blood chemistry that of essential hypertension. Electrocardiographic record made on March 26, 1928, shows inverted T in lead I. He died March 14, 1929, with a diagnosis of heart disease.

H. H. A. Painter. White. Age 58. First seen May 4, 1928. Complaining of weakness, sleeplessness, shortness of breath. Nycturia, six to eight. November 19, 1927, had a cold. Been going down since that time and getting more and more helpless. Always been well prior to last illness. No rheumatism. G. C. at 18. Findings: Teeth bad. Tonsils bad. Heart enlarged to left. No murmurs. Sounds normal. Rate 68. Respiration labored. Liver enlarged. Ascites, none. Swelling, none. Urine essentially normal. Blood pressure 200-100. Wassermann negative. Blood chemistry normal. *x-Ray* of heart made June 7, 1928, is comparatively normal. Electrocardiographic record made May 4, 1928, shows inverted T in leads II and III. S-T interval .4 second. Another record made July 31, 1928, about the same as before. He died March 8, 1929.

C. H. W. Laborer. Colored. Age 40. First seen September 15, 1927. Complaining of sores on face and legs that would not heal. Gave him several doses of neosalvarsan, mercury, bismuth, etc., and he cleared up quite nicely. He thought he was well and worked one day and had a severe pain in his heart that he said he thought would kill him. After this he was unable to lie down to sleep. He came in February 6, 1928. He had

shortness of breath. Had had syphilitic infection 18 years previous. Unable to work for two years more. Findings: Wassermann 4+. Heart enlarged to right and left. Systolic murmur over pulmonic and aortic areas. First and second mitral sounds seem to be a lub-lub-lub, etc. More of a patter. Rate 72. Respiration, sat up all the time. Cheyne Stokes for weeks before death. Liver palpable 3 cm. below costal margin. Ascites, terminal quite marked. Legs edematous for weeks. Urine negative. Blood pressure 160-100. Blood chemistry normal. February 27, 1928, 2 meter *x-ray* of heart shows a marked enlargement of left ventricle. An electrocardiographic record made February 6, 1928, shows inverted T in lead I. One taken February 27 shows inverted T in leads I and II. He died July 26, 1928.

Mr. F. T. Miner. White. Age 39. First seen February 13, 1928. Complaining of his heart, twitching pains in his heart, weakness, shortness of breath. First had pain in his chest five or six years ago. Has worked right along until recently when he gets so short of breath he can not work. Legs also get tired. No swelling of legs. Been diagnosed leakage of heart. Rheumatism 10 years ago. In bed at that time. Tonsils out June, 1927. Findings: Right pupil smaller than left. Irregular right pupil. One doubtful tooth. Gums in good shape. Heart enlarged to left. Thrill at apex. Marked pulsation in neck. Body seems to move with heart beat. Reduplicated first sound over mitral and aortic areas. Systolic and diastolic murmurs at apex and at pulmonary region. Rate 60. Respiration somewhat labored. Liver palpable 2 cm. below costal margin. Ascites, none. Some edema of legs. Urine negative. Blood pressure 120-40. Wassermann 4+. Blood chemistry within normal limits. On anti-luetic treatment. Has gained some in strength, etc. Electrocardiographic record made February 13, 1928, shows inverted T in leads II and III. One made May 2, 1928, shows the same thing.

Mr. W. J. S. Merchant. White. Age 50. First seen February 8, 1928, in a typical attack of angina pectoris. Complaining of indigestion. Pain was sub-

sternal and radiated to left shoulder and down his left arm. Wanted his left arm above the elbow rubbed constantly. Attack began about 10:00 a. m., but he ate a light lunch and about 1:00 p. m. was taken home with most severe pain. He was pale and clammy when I reached him. Rest, morphine and amyl nitrite gave relief of substernal pain, but arm ached all afternoon. Was in bed for several days but has gradually gotten back to where he does quite a day's work at the office. Some indigestion after meals at times, but not severe. Findings: One dead tooth. Tonsils not good. Heart enlarged little to left but not much. No murmurs. No accentuated sounds. Rate 64. Respiration painful when first seen. Liver not palpable. Ascites, none. Swelling, none. Urine, occasional cast. Blood pressure 100-80. Wassermann negative. Blood chemistry within normal limits. Feels fine at present. This tracing was made 10 days after his attack of angina pectoris. We have a T that is shallow and I believe one can make a positive diagnosis from this record. The next

record, made 32 days after the attack, shows the inverted T so much deeper that it is quite safe to surmise that had a record been made on the day of attack the T would have been upright in lead II.

Mrs. F. B. W. Teacher. Colored. Age 43. First seen January 16, 1928. Complaining of shortness of breath, weakness. Unable to sleep except by sitting up. Has been teaching school and working quite hard after school. Been unable to get rest at night and gradually got to where she can hardly go. Quite well until past few weeks. Findings: Teeth and tonsils not remarkable. Heart enlarged to left. Systolic murmur at apex. Accentuated aortic second sound. Rate 120. Respiration labored. Unable to lie down. Liver palpable 1 cm. below costal margin. Ascites, none. Swelling, none. Urine normal. Blood pressure 220-140. Wassermann negative. Blood chemistry normal. The electrocardiograph record made January 19, 1928, shows inverted T in leads I and II and tachycardia. She died April 16, 1928, after being in bed several weeks.

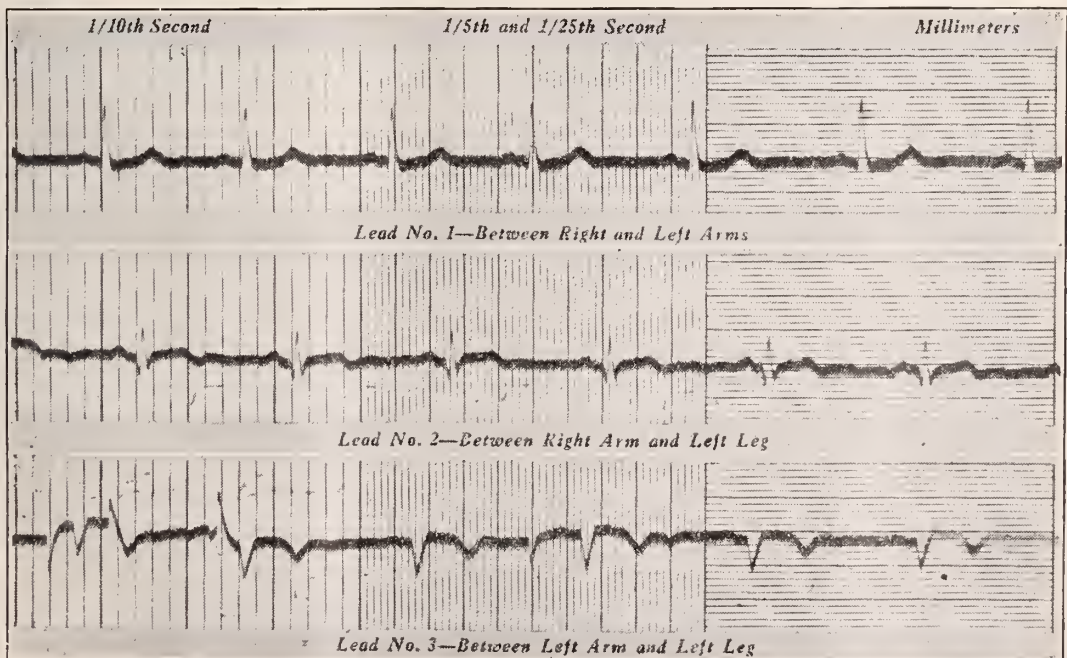


Fig. 16. Electrocardiographic record of Mr. W. J. S., showing a shallow T in lead II and a deep T in lead III. Also a left ventricular preponderance. Record of a man, 50 years old, made 10 days after an attack of heart pain. (coronary disease.)

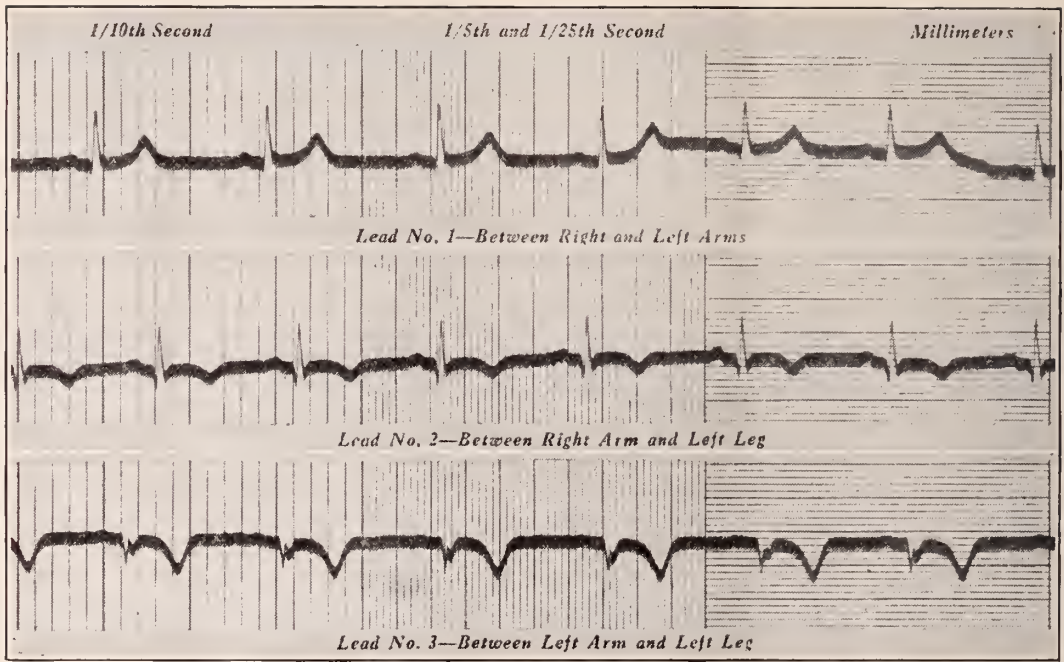


Fig. 17. Electrocardiographic record of Mr. W. J. S., made 32 days after the attack, shows T very pronounced in all leads. Note difference in leads II in Fig. 16 and 17. In Fig. 16 it is shallow while in Fig. 17 it is deep.

Mr. W. S. Laborer. White. Age 64. First seen February 12, 1928. Complaining of shortness of breath. Sits up to rest or sleep. Has been bothered with shortness of breath for a year. Ten weeks ago while pumping a tire he fell by the side of the road and had to be helped into car. Had been kicked in the chest by a mule three or four years ago. Otherwise quite well. Findings: Teeth bad. Heart enlarged some to left. Systolic murmur at apex. Accentuated aortic second. Rate 64. Liver palpable. Ascites, very little, if any. Legs and scrotum quite edematous. Few casts in urine. Albumen 2+. Blood pressure 200-100. Wassermann negative. Blood chemistry within normal limits. The electrocardiographic record made February 13, 1928, shows an inverted T in lead I and left ventricular preponderance. He died February 15, 1928.

Miss M. L. W. Student. White. Age 17. First seen March 8, 1929. Referred by Dr. Combs. Complaining of severe headache and backache. Hemorrhage from bowel. Severe anemia. Occasional double vision. Nausea and vomiting.

Took sick seven weeks ago with what seemed to be an acute nephritis. Had a severe cold in head and chest about five weeks prior to that. Always been quite well. Had gone to school. Had done quite a little horse-back riding. Scarlet fever at 10 years. Always had to get up at night to void her urine. Findings: Infected tonsils. Systolic murmur over whole heart area. Accentuated second sound at apex. Rate 106-136. Respiration labored at times. 20-28. Liver tender. Ascites, none. Swelling, none. Urine, albumen 1+ to 3+. Hyaline casts. Granular casts. Blood pressure 210-140. Wassermann negative. Blood chemistry within normal limits. On entrance red cells were 1,700,000. Hemoglobin 18 per cent. White count 28,400. Polys 94 per cent. March 8, 1929. Increased to 3,400,000. Hemoglobin 54 per cent. (March 14, 1929). Hemorrhage March 23, 1929. Red cells 1,730,000. Hemoglobin 18 per cent. Electrocardiographic record made on March 21, 1929, shows inverted T in leads I and II. Diagnosis: Essential hypertension with coronary disease.

Mr. W. J. A. Druggist. White. Age

56. First seen November 10, 1928. Referred by Dr. Fred Deal. Complaining of substernal pain. Two nights before I saw him he had a substernal pain at 1:00 a. m. which came on after two hours of sleeplessness. The pain lasted until about 3:30. The pain radiated to left shoulder and down the left arm. On the following night he had a similar disturbance. Findings: Tonsils submerged. Several infected teeth. Heart normal in size. No murmurs. Sounds normal. Rate 72. Respiration good. Liver not enlarged. Ascites, none. No swelling. Urine negative. Blood pressure 90-70. Wassermann negative. Blood chemistry normal. This record was made November 10, 1928, the morning of his attack. The only positive evidence we have is the fact that there is no zero line at the end of S but the T comes off at once above the zero line in both lead II and III. The record made six days later, however, shows a definite inverted T in both lead II and lead III. This inversion is still more marked 55 days after the attack. This merely shows that one should not take one record and pass final judgment on it. Willius⁶ in his recent book of March, this year, has shown this condition quite conclusively.

The patient has been on euphyllin, t.i.d., since November. Improvement is quite marked. The infected teeth were removed.

Sr. M. I. Retired nurse. White. Age 70. First seen January 8, 1929. Complaining of shortness of breath, pain in left chest, shoulder and arm. Was feeling quite well until one morning at chapel she fainted. When awake her pain and weakness was present. Always able to be about. Did not work hard. Overweight for a number of years. Findings: Infected teeth. Heart enlarged to left. No murmurs. Accentuated second at apex. Rate 70-90. Respiration, at times she sighs. Liver not palpable. Ascites, none. No swelling. Urine negative. Blood pressure 110-80. Wassermann negative. Blood chemistry normal. Just does not get strong. Electrocardiographic record made January 9, 1929, shows inverted T in leads I and II.

Mrs. A. H. Housewife. White. Age 52. First seen May 4, 1928. Referred by Dr. C. H. Smith. Complaining of vomiting and shortness of breath. Had been diagnosed influenza a few weeks before but had no cold with it. Symptoms the same as now. No history of rheumatism. Find-

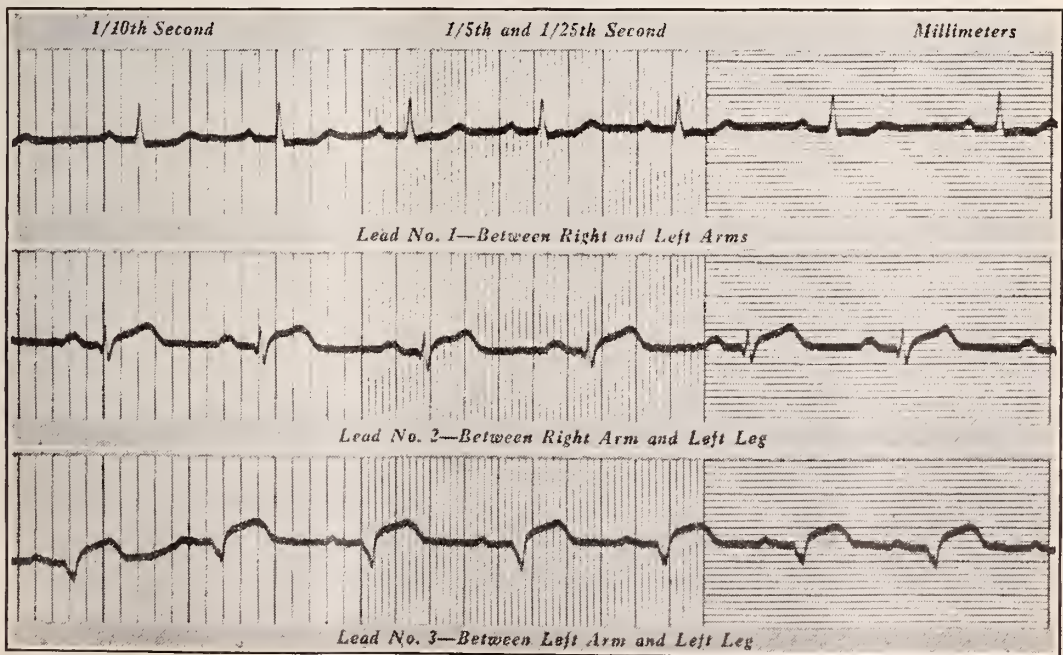


Fig. 18. Electrocardiographic record of Mr. W. J. A., 56 years of age, made 8 hours after a severe attack of heart pain (coronary occlusion). Record shows left ventricular preponderance. S T interval .32 seconds. T comes off above zero line in leads II and III. T has high amplitude in leads II and III.

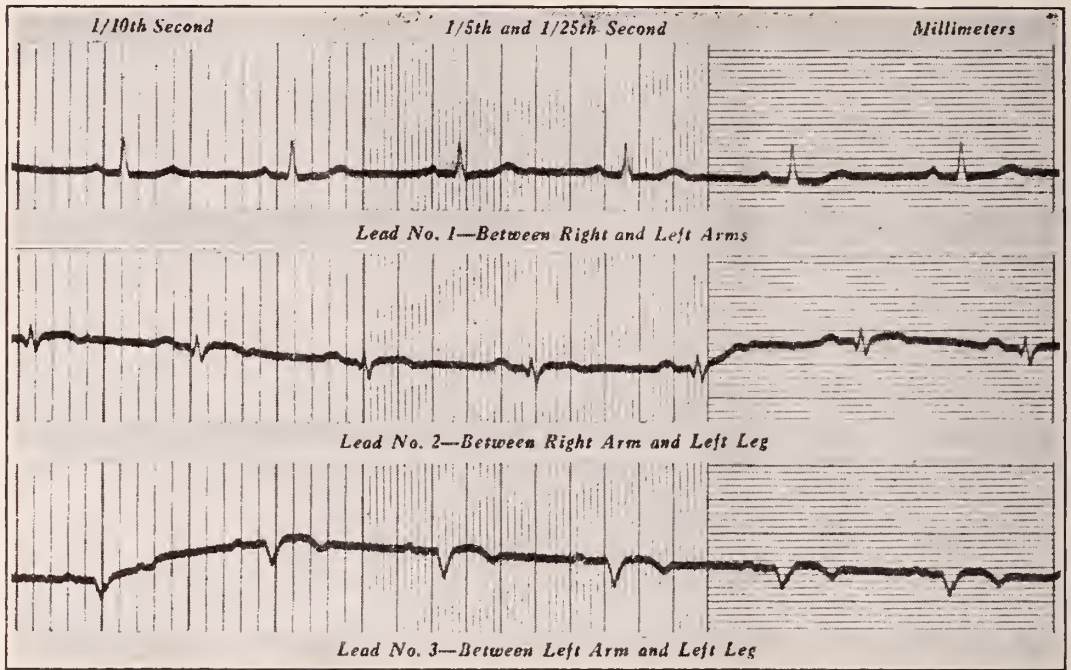


Fig. 19. Electrocardiographic record of same patient as Fig. 18, made 6 days later, showing the T inverted in leads II and III. T rather shallow in lead II.

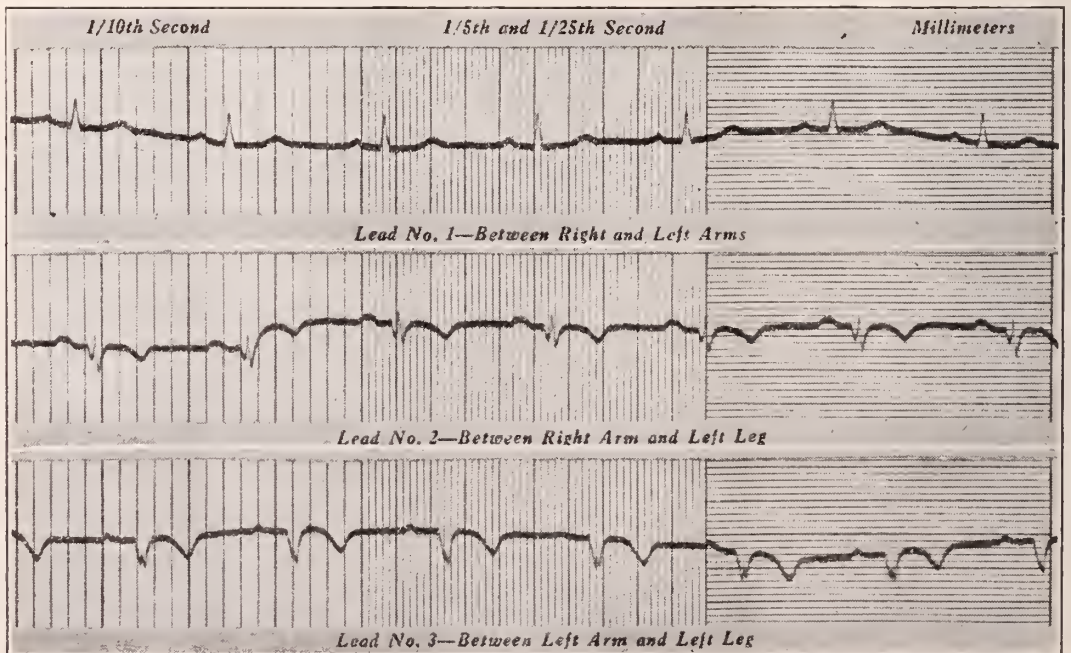


Fig. 20. Electrocardiographic record of same patient as Fig. 18 and 19, made 55 days after attack of cardiac pain (coronary occlusion) which shows a much deeper T in both leads II and III. The rest of the record is quite similar to the first and second.

ings: Cyanosed. Teeth all out. Heart enlarged to left. Musical diastolic murmur at apex. First sound accentuated at base. Rate 100. Respiration labored. Liver palpable and tender. No ascites. No swelling. Urine negative. Blood pressure 140-0. Wassermann negative. Blood chemistry—N. P. N. 54 mg. The electrocardiographic record made May 4, 1928, shows inverted T in lead I. Iso electric T in lead II. Left ventricular preponderance.

Frank M. Student. White. Age 16. First seen November 12, 1927. Referred by Dr. C. H. Smith. Complaining of shortness of breath on exertion. Hacking cough. Was diagnosed heart trouble several months before I saw him. Had been in school up to the time he came in. No edema. Had been fairly well as a young boy. Chorea at 8 years. Findings: Tonsils out in 1925. Loud systolic murmur heard over whole heart. Rate 88. Regular. Respiration somewhat labored. Liver not tender. No ascites. No swelling. Urine negative. Blood pressure 120-30. Wassermann negative. Blood chemistry normal. 2 meter plate made June 28, 1927, shows enlarged left ventricle. Electrocardiographic record made November 16, 1927, shows an inverted T in leads II and III. The boy feels fairly well. Has been in school all year. Does not play hard, but does play more than he should. Has been on euphyllin with a lot of general improvement.

Mrs. W. Housewife. White. Age 57. First seen January 20, 1929. Referred by Dr. C. H. Benage. Complaining of sharp, shooting headaches that come on in attacks. First took sick a week before I saw her with a pain in middle of her chest that seemed to rush up to her neck and back of her head. Felt faint with attack. These attacks continued to occur at frequent intervals, but would be worse if she sat up in bed a little while and would then lie down. Quite well prior to this illness. Findings: Several infected teeth. Heart about normal in size. No murmurs. Sounds normal. Rate 80. Respiration normal. Liver not palpable. Ascites, none. No swelling. Urine negative. Blood pressure 180-80. Wassermann negative. Blood chemistry—CO₂ 50.4 vol.

per cent. The electrocardiographic record made January 25, 1929, shows inverted T in leads I and II. I am quite sure that these attacks are attacks of angina pectoris, yet they are not altogether typical. She was in bed until March 6, 1929. She took large doses of K. I. and has made a lot of improvement. The attacks are very light now, although she still has some.

SUMMARY

The use of the electrocardiograph should become more general. There are many diseases of the heart that can not be recognized by physical and clinical examinations alone that should be diagnosed early by the aid of the electrocardiographic record.

Three types of myocardial changes are discussed with histories and electrocardiographic records of cases presented.

CONCLUSION

1. Auricular fibrillation can be definitely diagnosed by the use of the electrocardiograph in all but a few exceptional cases that must be differentiated from auricular flutter or paroxysmal tachycardia. It is granted that many of these cases can be diagnosed without the use of the instrument.

2. Angina pectoris and coronary disease can be diagnosed in most cases by the use of the electrocardiogram.

3. Records should be made from 5 to 30 or more days after the attack of angina pectoris before a negative report is taken as conclusive proof against coronary disease or before one says the record will not show the condition. Records are shown which tend to demonstrate this conclusion.

4. Bundle branch block is a common heart disease that is not diagnosed except by the most skillful without the aid of the electrocardiographic record.

5. Bundle branch block makes up about 10 per cent of all heart diseases seen in the author's private and hospital practice.

6. The electrocardiogram gives aid in diagnosis and prognosis in certain types of myocardial disease that is most satisfying to the clinician, and his patient.

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Observations on Diverticula of the Colon

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Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

In 1858, at a meeting of the Pathological Society of London, Sydney Jones reported the case of a man who had suffered from a fistulous communication between the bladder and the bowel, secondary to an inflamed and ulcerated diverticulum of the sigmoid flexure. In spite of this striking demonstration, nearly 70 years ago, of the existence of diverticula of the large bowel as distinct entities, and also of their role in the production of grave pathological processes, it was not until 1898 that Graser, by emphasizing their importance in the production of stenosing types of inflammation simulating carcinoma, caused attention to be seriously focused on them for the first time. Then the contributions of Mayo, Wilson and Giffin, Bear and Brewer in America, and of Moynihan and Telling in England, establishing diverticulitis as a well-defined clinical entity with definite sequelae. In spite of the extensive literature which has since grown up around the subject, diverticulitis cannot be said to be a common disease.

INCIDENCE AND DISTRIBUTION

The most recent radiological records of the incidence of diverticula are those by Spriggs and Larimore. In a series of 1,000 radiological examinations of the colon Spriggs found diverticula in 10 per cent. Larimore found diverticula in 1.24 per cent of 4,406 cases. At the Mayo Clinic, in 1925, diverticula were found in 5 per cent of cases in a series of 4,484 radiological examinations of the colon. In a recent reported study of 498 necropsies, diverticula were found in 34 cases (about 7 per cent). All but two of the patients in this series were over 45 years

of age. Making the necessary corrections, one could say that roughly 13 per cent, or one person in eight over the age of 45, showed diverticular formation in the large bowel. It was found almost twice as often in men as in women, although there was no marked preponderance of males over females in the total series studied.

In another report of examination of pathological specimens of large bowels, 53 specimens examined, diverticula were confined to the sigmoid flexure alone in 22 cases (40 per cent). They were scattered throughout the entire colon in 16 cases (30 per cent). Rarely the cecum, ascending colon, splenic flexure, and upper rectum were each involved, alone or with the sigmoid. The point to be emphasized is that the sigmoid is involved in between 70 and 80 per cent of the total number of cases showing diverticular formation; these findings correspond closely with those determined by *x*-ray examination.

THEIR SITE IN RELATION TO CIRCUMFERENCE OF THE BOWEL

The exact situation of diverticula in relation to the circumference of the bowels is remarkably constant. They appear between the mesocolic and the antimesenteric longitudinal muscle bands, rather closer to the latter than to the former. The diverticula are definitely related to the blood-vessels entering from the mesentery. I have never seen diverticula of the large bowel entering between the two leaves of the mesentery as diverticula of the small intestine are so apt to do, and in only one instance have I seen them appearing on the antimesenteric aspect of the bowel between the two antimesenteric muscle bands. When numerous in the sigmoid, however, they may not confine themselves strictly to the vessel points, but, as a result of the generalized weakening of the musculature, they may crop out promiscuously all over the area between the mesocolic and the antimesenteric longitudinal muscle bands. I have seen one instance in which the diverticula were splitting the fibres of the longitudinal muscle band.

I believe the final tendency in all diverticula of the large bowel is towards

the production of the false type of sac. On the other hand, in a certain proportion of diverticula a muscular coat is retained, and these can be classified as true diverticula. At the same time, it is probable that they are simply stages in the development towards the false type. Again, if chronic inflammatory changes develop around diverticula, their further growth tends to be arrested.

ETIOLOGY

The first aspect of the problem to be considered is whether the diverticula are congenital or acquired, or whether there are two distinct types. The fact that several cases have been described at early ages favors a congenital basis, and there is also the association, in a proportion of cases, with diverticula elsewhere in the body. In a series of 53 cases examined post mortem, diverticula of the colon were found associated with diverticula of the duodenum in four cases, with diverticula of the jejunum in two, and with diverticula of the bladder in two. In other words, the coexistence is not common enough to favor a congenital origin. That diverticula of the colon are sometimes congenital must, I think, be admitted, but they are very rare. The cases reported by Hartwell and by Futterer and Mitteldorph are undoubtedly congenital.

Acquired Diverticula—As a rule, the occurrence of diverticula in middle and later life is overwhelming evidence that they are acquired. The age-incidence in 100 cases of diverticulitis verified by operation showed 85 per cent of the patients between the ages of 40 and 70, so that apparently diverticula begin to affect persons in middle life and are especially common in advanced middle age and old age.

The earlier observers, including Graser and Hansemann, stressed the repeated increases in pressure from constipation and gaseous distension as being important factors in etiology, but there are many reasons for believing that if the wall of the bowel is of normal elasticity there is no distension clinically which will produce diverticula. Again though, Graser, Hansemann, Hanau, and Klebs concentrated on the vessel points in the

bowel wall as constituting the key to the etiology of diverticula, these vessel points are probably to be regarded more correctly as determining the site of the diverticulum than as important etiological factors in their formation. Most observers have noted the tendency for diverticula to occur in rather obese persons, but the obesity in these cases is most probably the concomitant of middle age and its attendant restricted physical activity, with resultant lowered plane of metabolism and less perfect oxygenation of the tissues. With few exceptions diverticula occur after the age of 40, when the patient is entering on the degenerative period of life. It seems logical enough to assume that the loss of tone and elasticity of muscle which accompanies advancing years is not confined to striated muscle, but affects the unstriated muscle throughout the body, including that of the intestine. Recently Spriggs and Marxer, from a series of excellent radiological studies, suggest that the diverticula may result from a preceding inflammatory process, but in my own pathological studies I was unable to demonstrate this.

CLINICAL FEATURES

Clinically, this subject should be divided into two types. First, diverticulosis, second, diverticulitis, the second merely being the first plus some complication.

Diverticulosis is often without symptoms or the symptoms are so indefinite as not to suggest the presence of multiple diverticula. However, the colon which is the seat of diverticulosis is often spastic, and there may be considerable constipation. Even then it may be difficult to determine whether the constipation is due to diverticula or the habit of the individual. Likewise, the spasticity present may be either the cause or the result of the condition. The diagnosis is usually made more or less accidentally as a result of the x-ray examination of the large bowel.

Diverticulitis is the clinical condition with which we are concerned today. As previously stated, it usually is diverticulosis plus some complication. This complication is most often infection or the

results of infection. This infection may be acute and bring the patient immediately to the surgeon with a condition that very much simulates appendicitis except the symptoms are all left sided rather than right sided. We had one such case in which the operation revealed an acutely inflamed diverticulum of the sigmoid. Following the removal of this, the patient made a rapid recovery. In most cases, however, the infection is of a more chronic type resulting in either of two conditions. First, pelvic peritonitis, which if not treated may result in abscess formation. The second group of the chronic type is the far more common one, and in this group there is a gradually increasing stenosis of the bowel from chronic diverticulitis and peridiverticulitis producing more or less constipation, and from time to time superadded acute inflammation may cause a flare up during which the sigmoid becomes swollen and tender and partial or complete obstruction may supervene. The patient may seek advice during the first of these attacks or may pass through several of them with periods of relief and come to the surgeon only after repeated attacks of this character.

There is a distinct tendency for the sigmoid which is the seat of diverticulitis and peridiverticulitis to become adherent to surrounding structures, and this is favored by the mobility of the sigmoid loop. The adhesions may localize the infection, thus helping to produce the abscesses referred to, or by the contraction of these adhesions, produce the obstruction referred to. In the chronic type these adhesions are practically universally present. In diverticulitis of the chronic type, there may be associated either carcinoma or tuberculosis. In 1917, Mayo reported 42 cases in 13 of which there was an associated carcinoma and he insists that chronic diverticulitis should be regarded as a pre-cancerous condition. Mailer has reported two cases in which hyperplastic tuberculosis of the sigmoid was found coexistent with diverticulitis.

DIFFERENTIAL DIAGNOSIS

The very common mistake of the patient has been to confuse chronic diverticulitis of the sigmoid with carcinoma of

the sigmoid. Both conditions are prone to occur past middle life. As we have seen these cases, the two important points in differential diagnosis has been the malignant case shows early loss of weight and examination of the stool shows blood or blood and mucus. Judd and Pollock in stressing this point have stated in their series, only 15 per cent of their diverticulitis cases had blood in the stool while approximately 65 per cent of the malignant cases showed blood.

CONCLUSIONS

First: Diverticulosis is a fairly common disease present in one to eight persons past the age of 45.

Second: Diverticulitis is the clinical entity usually recognized and far too often diagnosed as carcinoma.

Third: Diverticulitis is a clinical entity, almost universally involves the sigmoid, and is characterized by recurring attacks of partial obstruction occurring in an obese person past middle life. There is this history of recurring attacks of partial obstruction without loss of weight or blood in the stool. Careful examination may or may not show a tumor in the left side of the pelvis.

To emphasize the importance of differential diagnosis, and to call attention to one post-operative complication that I have never seen mentioned, I desire to quickly review two cases that were recently in the hospital at the same time. The first is a young woman thirty-two years of age, a history of repeated attacks of partial obstruction, low in the large bowel, but with this history was the history of marked loss in weight and both blood and mucus in the stool. *x-Ray* study confirmed the suspicion of partial obstruction low in the large bowel. Bimannual examination revealed the presence of a small tumor mass in the left side of the pelvis. Operation made positive the diagnosis of malignancy low in the sigmoid. At the first operation we did a left inguinal colostomy. Two weeks later, we removed by the perineal route, the entire rectum and lower sigmoid. Pathological examination confirmed the diagnosis of malignancy, reported no evidence of peri-rectal glandular involvement. The second case is one bearing

upon the subject at hand, this lady was 47 years old, obese, with a history of repeated attacks of partial obstructions. No blood or mucus in the stool, and no loss of weight, and like the other, bimanual examination showed a small left sided pelvic tumor. *x*-Ray examination confirmed the obstruction and showed us rather conclusive evidence of the presence of diverticula. This woman was operated upon at almost the same time as the first case. There was found present the adherent loop of sigmoid with the multiple diverticula easily recognized. This was re-sected and end-to-end anastomosis done. She returned to bed in good condition, remained in good condition. On the fourth day the bowels moved for the first time. On the evening of the sixth day she was seized very suddenly with very severe pain in the lower part of the abdomen. Pain so severe as failed to be relieved by a first or second hypodermic of morphine. She showed immediately symptoms of shock, and all efforts at relief of this shock failed. She died six hours after the onset of the pain. An autopsy revealed a perfectly healed suture line, but about one-half inch proximal to the suture line on the posterior surface of the bowel an unresected diverticulum had ruptured, thus emptying into the free peritoneal cavity a quantity of intestinal content.

The point which I wish to emphasize is that in doing resection, one should always remember the multiplicity of these lesions and examine carefully for their presence near the proposed suture line. Following the completion of this suture line, I drew across it many surrounding tabs. It is possible that in doing this, and failing to recognize that in one of these apparent fat tabs, there might be hidden a diverticulum that my needle so nearly encroached upon this diverticulum as to weaken its wall and thus make possible the rupture which came on the evening of the sixth day.

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A teacher was telling the class that "ous" at the end of a word usually meant "full of," as in "courageous," meaning "full of courage." "Now," said she, "can any one of you boys give me another example?"

Up shot a hand and a voice piped forth: "Please teacher, 'pious.'"

The Interpretation of the Blood Wassermann Reaction in the Diagnosis of Latent and Late Syphilis

E. H. TERRILL, M.D., Wichita

Read before the Sedgwick County Medical Society, May 21, 1929.

The effective management of any disease begins with its diagnosis. is developed upon the basis of a thorough understanding of its pathology; but the degree of success can be determined only by some method for the estimation of therapeutic efficiency.

In no condition are these facts more apparent than in syphilis, with its many diagnostic difficulties and extreme diversity of manifestations. The Wassermann reaction properly employed, furnishes us not only with one of the most valuable diagnostic aids, but with the only simple means of approximating a quantitative measure of the efficiency of our various therapeutic methods.

But like any other laboratory procedure, it should not be considered infallible, neither should it be condemned because of an occasional disagreement with the clinical findings. Unfortunately, until recently, conflicting opinions with respect to various phases have been prevalent and have probably received undue emphasis, the literature containing many apparent contradictions. Now, with some of our previous ideas proven erroneous, and with a better understanding of the disease, as well as the variables of the serological reaction, much of this diversity of opinion has disappeared.

The procedure as originally introduced, is of course obsolete, but after numerous modifications and refinements of technique, it is now capable in proper hands of a high degree of accuracy and dependability. Divergent reports from various laboratories can in fact be so far reduced that repeated disagreements can definitely be regarded as evidence of faulty methods. The same is equally true of repeated unexplained discrepancies when compared with the adequately studied clinical findings.

The ultimate criterion by which all laboratory methods must be judged is the degree of conformity to the results of clinical and pathological study. Since

the Wassermann is no exception the serologist should be in a position to continuously compare his results not only with the clinical findings but to check them with other laboratories, for only by consistent agreement can he assure the reliability of his tests, and so merit deserved confidence. But while modern technique and adequate clinical control have resulted in a degree of dependability previously unattainable, a simultaneous better understanding of the pathology and mechanism of syphilis has brought to our realization as never before, the necessity for greater care in Wassermann interpretation. Particularly is this true in latent and late syphilis where weak positives or complete negatives even in the presence of definite clinical evidence are by no means infrequent.

Needless to say, the Wassermann is an intricate procedure requiring scrupulous care and attention to detail, and one so easily influenced by variables both known and unknown, that its full interpretation entails not only an understanding of serology, but of syphilis itself. One can therefore no longer either accept or interpret a Wassermann no matter how or by whom made. But assuming perfect technique, no report can be considered satisfactory that does not indicate the method and reagents used. The lack of a critical attitude on the part of physicians toward the work of the clinical laboratory and the prevalent tendency to ascribe equal value to all Wassermann reactions is too often paid for both in dollars and needless suffering by the patient. Stokes has well said, "Whatever savors of technical inexperience, of the injudicious or uncritical attitude, of personal motive or commercial interest, of haste, inaccuracy, or laxity of control, has no place in its performance."

There is a striking similarity between the drug clerk who advises the application of calomel to the suspected chancre, and the laboratory worker who with insignificant medical training makes the diagnosis and offers advice with respect to treatment. Some who loudly voice their disapproval of the first, accept the second through the laboratory report.

We all know that its unquestioned acceptance as an indication of the presence or absence of syphilis according as it is positive or negative can not be vindicated.

The protein manifestations of syphilis together with the far reaching consequences of a mistaken diagnosis, requires of each of us his greatest skill in observation, and final interpretation of the available data. This means an accurate correlation of both clinical and laboratory findings and necessitates some degree of familiarity with laboratory procedure, combined with clinical experience.

If the serologist is to assume the responsibility for interpretation of the reaction, he deserves the same courtesies offered any consultant, and all necessary facts should be placed at his disposal. On the other hand if the clinician makes his own interpretation, he should understand that a positive or negative report means only that the serum in question did or did not contain complement fixing substances in sufficient quantity to be demonstrated by the method employed. The clinician must in justice to his patient familiarize himself with at least the fundamentals of Wassermann procedure, with the limitations of the test by the technique employed, and with the known factors which may modify the results. A moderate amount of properly directed study would eliminate many inquiries with reference to the significance of certain reactions. If to this is added careful clinical observation, there need be little reason for dissatisfaction with the reports of a competent laboratory. There is to some extent a failure to realize the necessity for interpretation of the reaction, which may in turn be the result of a limited circulation of literature dealing with this particular phase.

Before proceeding further, let us consider very briefly the fundamentals of the Wassermann reaction. Its precise nature still remains unknown, yet we do know that while almost specific for syphilis, it does not depend upon the presence of true immune bodies as do for example the agglutination tests such as the Widal.

There are five reagents entering into the reaction as follows: (1) the patient's serum, (2) the antigen, usually an extract of beef heart, (3) fresh guinea pig serum which contains the complement, (4) the amboceptor or hemolytic serum, obtained from a rabbit which has been given intravenous injections of washed sheeps corpuscles until its serum in high dilution has acquired the property of hemolyzing or laking these, and (5) a suspension of washed sheeps corpuscles in normal saline.

The mechanism of the reaction is as follows: A positive serum contains a substance capable of uniting the complement present in the guinea pig serum to the antigen or beef heart extract. When this occurs, the complement is firmly bound or fixed and incapable of any further activity, hence the general term complement fixation. The amount of complement thus affected depends upon the amount of the reacting substance present in the patient's serum. The appearance of the mixture is not altered by this process, consequently a sort of indicator must be added. For this, hemolysis of sheeps corpuscles sensitized by the hemolytic serum is used, which can not take place except in the presence of complement and occurs to a degree depending upon the amount of complement remaining. So we add to the above mixture of patient's serum, antigen, and complement, incubated a sufficient time for fixation to take place, washed sheeps corpuscles and amboceptor or hemolytic serum in such quantities that the previously added complement will if still free, produce complete hemolysis. Obviously if this complement has been previously fixed to the antigen by the patient's serum, no hemolysis of the sheep cells can occur and we have what is termed complete fixation or a 4+ reaction. If, however, only a fraction or even none has been fixed, hemolysis will occur to a degree dependent upon the amount remaining, and we have as a result, reactions varying from 3+ to negative.

Few if any laboratory procedures involve more variables than the Wassermann reaction. Some of these are subject

to our control while others are wholly unknown. For convenience they may be divided into four groups; those involving (1) the patient, (2) the specimen, (3) the technique, and (4) the serologist. These will be considered in the order named.

There occur variations due both to the stage, activity, duration, and type of the disease, and to the method and duration of treatment, which are among the most frequent as well as the most inconsistent and unexplainable of all the manifestations of syphilis; these are obviously not subject to our control.

It has often been shown that the ingestion of an appreciable quantity of alcohol within the 24 hours preceding the test may convert a weakly positive into a negative reaction. The ingestion of certain foods which tend to disturb the lipoid content of the serum may rarely produce what is termed an anticomplementary reaction. By this, we mean that the serum contains substances which seem to destroy more or less complement, so that no hemolysis occurs on addition of the sheep cells and hemolytic serum. This property of the serum is detected by the inclusion of a serum control.

Such a reaction may likewise occur in jaundice or uremia, or it may follow contamination of the serum by bacteria or by foreign substances from unclean syringes or needles. Excessive hemolysis due to the blood specimen being kept too long at high temperatures before removal of the serum may be an additional factor. Occasionally such reactions occur without demonstrable cause. An anticomplementary reaction can not be read but must simply be reported as such. A repetition later is advisable for a relatively high percentage are eventually found to be positive.

The effect of factors concerned with technique involves too much of intricate detail to be considered here. Let it be said, however, that while some points are subject to controversy, the relation of others is well established, and demands the careful consideration of the serologist.

In the last group, we place those influences which are responsible for the

slight differences in reports from competent laboratories and which can not be explained by any of the foregoing. In the ultimate analysis, these are found to reside in the training and attitude of the laboratory personnel, and in the degree of clinical control, and vary somewhat with individual workers of equal ability.

An appreciation of these fundamentals should better prepare us for the application of the Wassermann to the study of latent and late syphilis, for in these types the test is subject to the greatest variation. This can to a considerable extent, be explained by the pathology of the disease.

Latency is the natural outcome of the combination of factors controlling and influencing the development and progress of the infection. According to Ebersson, the production of antibodies reaches a maximum late in the disease, which predisposes to latency without obvious lesions. Brown and Pearce have developed this idea still further, two factors being postulated which tend to repress the spirochetal activity, "One directed toward the spirochete itself, and the other whose object is the neutralization of toxic or harmful effects. These proceed in parallel directions, but not to an equal degree." Experimentally, progress of the disease follows the law of inverse proportions and that of sequence or progression. The first states that the duration of the active manifestations of the disease is inversely proportioned to the intensity and extent of the initial lesion. This is, however, subject to modification by the second, according to which syphilis when allowed to pursue an undisturbed course tends to progress in a definite manner, affecting tissues in an orderly sequence, due to their different susceptibilities, but to a variable extent depending upon the intensity of the defense reaction of the host. This tends to increase at the site of local injury produced by the spirochetes until their activity is checked, after which it again tends to decline. Healing of the lesion may follow, but the organisms still remain, and the cycle is repeated at intervals with fluctuations of balance between resistance and susceptibility over a period of years

until finally the increased resistance of the host has rendered the organisms incapable of further injury. Thus we have the so-called spontaneous cures, which are probably only instances in which the resistance of the patient has been sufficient to prevent obvious damage to vital structures.

Warthin has further explained the long period of latency as the result of a relative immunity continuously maintained by a slow progression of numerous scattered foci, especially in the parenchymatous structures and cardio-vascular system. The lesion in this instance is the small focus of round and plasma cell infiltration in the lymph spaces, capillary vessels, vasa vasorum, and parenchymatous organs, which results in a slow fibrosis with eventual impairment of blood supply and actual replacement of parenchyma by scar tissue. The impairment of function of such organs is often not apparent until late, owing to their great reserve.

When this local defense reaction is at any time overcome, organisms may again be scattered thruout the system and new foci arise, some which may be visible and offer objective evidence of a relapse. Progression in this manner makes the patient with syphilis not only a relapser but a carrier, potentially infectious for many years after the disappearance of all objective evidence of the disease.

The severity of late or tertiary manifestations has in some respects never been adequately explained but appear to follow a decrease of resistance to the infection. While the organisms are usually few, tissue destruction may be extensive. This has been attributed to interference with the blood supply by the progressive endarteritis, or to a type of sensitization phenomenon. Late lesions usually follow a period of latency which has persisted for months or even years.

So, according to Brown and Pearce, "The manifestations of the disease presented in any given instance depend not only upon the general laws which govern syphilitic infections and reactions, but upon a number of other circumstances which include any and all conditions affecting the initiation of the infection, the

resistance of the host; and the pathogenic properties of the organisms themselves."

Following the spontaneous disappearance of the secondary manifestations, syphilis enters upon a period of latency during which insidious progress may alternate with periods of visible lesions. In view of the gradual decline in the positive tendency of the Wassermann reaction, clinical observation and familiarity with the land marks of the disease become of increasing importance, and the student of syphilis, while employing laboratory methods to the limit of their dependability, must rely chiefly upon clinical observation.

The production of those changes in the blood serum responsible for the positive Wassermann is intimately bound up with the defense reactions but subject to modification by a variety of influence, some of which are as yet undefinable. The incidence of positive reactions and their intensity is thought to be directly proportioned to the number of spirochetes present and their degree of activity; consequently where little or no tissue reaction occurs, the Wassermann may easily be negative. Figures for large numbers of untreated cases show from 40 to 65 per cent positives, while those previously well treated show as low as 15 per cent. If over five years has elapsed since infection in an obviously inadequately treated case, only careful judgment and observation can distinguish a serologically negative syphilis from one of arrest or latency. There is a certain spontaneous Wassermann negative tendency after the first two or three years which may allow a negative test, but this is by no means synonymous with clinical cure, for insidious progressive degenerative changes may continue under the guise of serological negativity, especially in neurological and cardiovascular syphilis; although as a general rule the latter is prone to give a high proportion of positives, even before definite signs or symptoms have developed. So frequently is this encountered that some suspect cardiovascular involvement where there is no indication of the site of the lesion.

Latent or asymptomatic syphilis is un-

doubtedly more prevalent than is generally believed, and is probably responsible for a large number of so-called false positives. So diverse or vague may be the symptoms or signs of late syphilis that many cases would undoubtedly be overlooked without the Wassermann reaction. This is even more true of latent cases with or without those indefinite symptoms which, while the results of a relapse, nevertheless are wholly nonsuggestive as to the underlying cause. Early recognition of such cases is of extreme importance in avoiding the tertiary lesions prone to develop later. There appears to be no limit to the time which a positive reaction may persist. In untreated cases with late active manifestations, positives may be obtained in well over 90 per cent, while in those who have had inadequate treatment, this figure may fall to 75 per cent.

The spontaneous Wassermann negative tendency in latent and late syphilis, together with the often unexplained sudden wide variations in intensity have repeatedly demonstrated the futility of implicit reliance upon a single serological examination. It is of practical importance that many of these positive fixations are not complete and occur only with the most sensitive technique.

So a negative or weakly positive reaction demands a clear appreciation of the factors influencing the results of the test, which can only be interpreted in conjunction with all other available data. Not only repeated tests but the most searching history and examination, possibly followed by long observation may be necessary in order to assure the absence of syphilis.

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TUBERCULOSIS ABSTRACTS

The first clear differentiation between the bovine and human types of tubercle bacillus was made in 1898 by Theobald Smith. When it became evident that the bovine tubercle bacillus may be conveyed to the human through the drinking of milk, the sanitary control of this important food was demanded. Pasteurization and the gradual but steady elimination of tuberculous cows have undoubtedly been factors in reducing tubercu-

losis, particularly the osseous and lymph glandular forms commonly seen in children. In England, the problem seems to be more difficult and unyielding than it is in the United States, according to William G. Savage, health officer of Somerset, from whose book, "The Prevention of Human Tuberculosis of Bovine Origin," most of the following information is abstracted.



HUMAN TUBERCULOSIS OF BOVINE ORIGIN

There is little statistical evidence to prove the direct relationship between the extent of bovine tuberculosis among cattle and the incidence of human tuberculosis of bovine origin. Satisfying studies of this kind are obviously difficult to make, and those that have been made are inconclusive.

PREVALENCE OF DISEASE

The exact prevalence of bovine tuberculosis among humans is not easy to determine. It is impossible to decide by clinical means whether a given case is of human or bovine origin, although the organism may, by a somewhat laborious bacteriological procedure, be isolated and identified. Several bacteriologists have undertaken studies of this kind, and their total number, while not large, is enough on which to form an estimate of the percentage of bovine tuberculosis. On the basis of these studies, Savage arrives at the conclusion that 1 per cent of the respiratory and 23 per cent of non-respiratory cases in England are of bovine origin. From this, he calculates that in 1927 a total of 310 cases of respiratory and 1,635 cases of non-respiratory tuberculosis which ended in death were of bovine origin. Moreover, the cases not ending in death, while not ascertainable,

must be considerable, and responsible for a vast quantity of suffering.

EXTENT IN UNITED STATES

In the United States, Park and Krumwiede studied in 1910 the bacteriological origin of 435 cases of tuberculosis. About 7 per cent of the entire group (all ages) were of the bovine type. However, of the group under five years of age, about one-third were of bovine origin, and slightly over half of these were involvements of the cervical glands. Subsequent to that study, New York City adopted the practice of pasteurizing all milk supplies, with the exception of about 1.5 per cent which was certified. This did not apparently affect the incidence of pulmonary tuberculosis among children, but the percentage of cervical cases of bovine origin was reduced to less than half its previous figure.

METHOD OF TRANSFER

Human tuberculosis of bovine origin may nearly all be charged to the use of milk containing living tubercle bacilli, though cream, butter and cheese cannot be altogether ignored. The milk is infected usually from the lesions on the udder, though contamination of milk from feces containing excreted tubercle bacilli is also common. Every cow that reacts positively to the tuberculin test should, therefore, be regarded as a potential source of infection, for both human beings and cows.

CONTROL OF BOVINE TUBERCULOSIS

Methods for dealing with the problem in the United States are primarily twofold; the eradication of the disease among cattle by slaughtering positive tuberculin reactors and the pasteurization of milk. The Federal Department of Agriculture, through the various state bureaus and departments of animal industry, has pursued with vigor its policy of "cleaning" herds and accrediting those free from the disease. While there are many practical difficulties in the way and the cost in terms of subsidies for slaughtered cattle is expensive, the percentage of infected cows is gradually lessening.

The practice of "designating" or certifying certain milk will probably never be practicable on a wide scale because

of the difficulty of adequate, reliable inspection. Nor does certification take sufficiently into account possibilities of infection other than tuberculosis, such as scarlet fever, septic sore throat and typhoid fever. Recently, cases of undulant fever have been reported as having been acquired from accredited herds free from tuberculosis.

HEAT TREATMENT OF MILK

Pasteurization admittedly has its failings. Machinery and methods have been perfected to a high degree of efficiency, but the human factor frequently fails, and this can be controlled or supervised only with great difficulty. Moreover, standards regulating the process very widely according to communities; pasteurization may mean something entirely different in one city than it does in another. However, efforts are now being made by the U. S. Public Health Service to restore order out of chaos. With the aid of leading state health officers, the Service has drafted a Standard Milk Or-

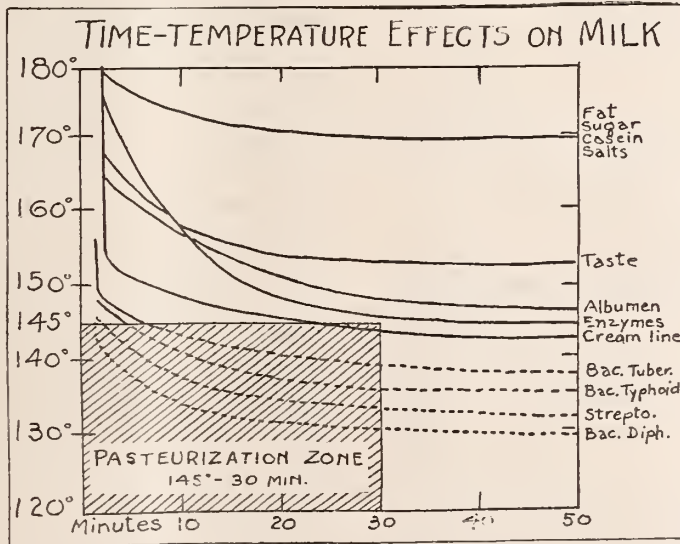
ture for not less than 30 minutes in pasteurization apparatus approved by the health officer, the temperature and time being automatically recorded by a temperature and time recording device approved by the health officer."

NO INJURIOUS EFFECTS

Milk properly pasteurized is not injured as a food to any appreciable extent. Apparently, Vitamins A and B are not affected, Vitamin C is reduced in amount, and little is known as to the fate of Vitamin D. This slight loss of vitamin content may be restored in a child's feeding by the addition of a small quantity of fruit juice.

How heat at given periods of time affects the food constituents and qualities of milk, as well as certain common bacteria which may contaminate milk, is indicated in the chart.

According to the author, the American method of dealing with bovine tuberculosis is not applicable in England because the dairy business is organized on



dinance, suitable for adoption by municipalities. The particular advantage of the ordinance is that it defines clearly the many commercial and technical terms involved in milk production methods. Pasteurization, it states, "shall be taken to refer to the process of heating every particle of milk or milk products to a temperature of not less than 145 degrees Fahrenheit, and holding at such tempera-

a much more haphazard and decentralized basis, making supervision almost impossible, and also because the slaughter of some 40 per cent of the dairy cattle (which would be necessary) would impoverish the state and also cause a milk famine. He suggests a practical but elaborate plan of gradually cleaning the herds. Space forbids discussion of details, which seem sound and workable.

Apparently assuming that the general practice of pasteurization would be too readily seized upon as a substitute for the more radical measure of eliminating tuberculosis among cattle, the author of the proposed English plan minimizes the value of pasteurization and speaks of it as "a confession of failure." With this feeling, American sanitarians would surely not agree. Clean milk regulations have not discouraged the campaign to free cattle from tuberculosis; that being a worthy object in itself, viewed purely from an economic standpoint. Pasteurization is not advocated as a means of making dirty milk clean. The ideal is to produce milk as clean as possible and to supplement this by heat treatment. The possibilities of contaminating this food product in its devious trip to the consumer are numerous; and pasteurization is but an added protection against tuberculosis, as well as many other dangerous infections.

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Roentgenographic Characteristics of Bone Lesions

Charles G. Sutherland, Rochester, Minn. (J.A.M.A., Dec. 28, 1929), discusses the reasons for the failure to make a roentgenographic diagnosis of bone lesions and details certain points on which a diagnosis may be based.

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Stramonium As Therapeutic Agent In Sequelae of Epidemic Encephalitis

Encouraged by the favorable and more complete report of Carmichael and Green on the effectiveness of stramonium in diminishing post-encephalitic rigidity. A. L. Jacobson and Frederick Epplen, Seattle (J.A.M.A., Dec. 28, 1929), undertook to check these observations in a series of cases of both the postencephalitic and the idopathic paralysis agitans type. From three to ten years ago, each of these patients, except a few with idopathic agitans, was stricken with epidemic encephalitis, ranging from an evanescent diplopia to two years of bed-fast confinement. In all these cases there was apparent recovery, followed in from one month to three years by various degrees of the parkinsonian syndrome. The U. S. P. tincture of stramonium was em-

ployed in doses ranging from 20 to 70 minims (1.2 to 4.3 cc.), three or four times a day, administered orally. It proved to be an excellent palliative remedy for all symptoms of the parkinsonian syndrome of postencephalitic origin, with the single exception of the pareses, which remain unbenefited. It is of great benefit in idopathic paralysis agitans, but not so much so as in the syndrome of postencephalitic periods, and large doses are necessary. Toxic manifestations are rare and seemingly evanescent.

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To the Editor of the Journal:

I wish to inform the subscribers of the *Medical Interpreter* that I have resigned as editor of this publication in December, 1928, and that I am no longer responsible in any manner for the actions of its promoters.

ALBERT ALLEMANN, M.D.,
Washington, D. C.

—————R—————

Gonorrhoea of Anus and Rectum

Of the 1,218 rectal cases seen by Herbert T. Hayes, Houston, Texas (J.A.M.A., Dec. 14, 1929), in seventy-five, or 6.2 per cent, there were infection with gonorrhoea. The mode of infection was unnatural sex practices in four men, ruptured prostatic abscess in one, infection in two children from carelessness of attendants, accidental infections of unknown origin in three male adults, and, in the remaining sixty-five, presumably auto-inoculation. Hayes concludes that gonorrhoea of the anus and rectum is of frequent occurrence and is often overlooked by proctologists and urologists. Gonorrhoeal proctitis is much more frequent in women than in men. Auto-inoculation is the chief mode of infection and stricture of the rectum is the most serious complication encountered. It is rarely found in the white race but is frequent in the colored.

—————R—————

RELAXATIVES

"What are you doing that for, mother?" asked little Norman as he saw his mother sterilizing the dishes that come from the sickroom.

"Because, dear, poor daddy has germs and the germs get on the dishes. I boil the dishes and that kills the germs?"

Norman turned this over in his mind for a minute or two and then inquired, "Mother why don't you boil daddy?"—Boston Transcript.

THE JOURNAL

of the

Kansas Medical Society

W. E. McVEY, M. D. - - Editor

ASSOCIATE EDITORS—C. W. REYNOLDS, L. B. SPAKE, P. S. MITCHELL, O. P. DAVIS, J. T. AXTELL, J. F. GSELL, C. C. STILLMAN, ALFRED O'DONNELL, C. S. KENNEY, I. B. PARKER, C. H. EWING, W. F. FEE.

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LIST OF OFFICERS—President, E. S. Edgerton, Wichita; Vice President, E. C. Duncan, Fredonia; Secretary, J. F. Hassig, Kansas City; Treasurer, Geo. M. Gray, Kansas City.

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COOPERATION

There is one word in the English language that has continued to grow in importance with better understanding of the economic principles upon which a wholesome environment, prosperity, health and happiness most depend; a word whose meaning has grown more and more comprehensive with the widespread application of the thing it stands for. That word is cooperation and it now stands for success in so many departments of the world's work that even the medical profession can no longer afford to ignore it entirely. Even the churches, or the representatives of the churches, are apparently compelled to resort to co-operative methods in order to stem the tide of their waning influence.

The laboring men first demonstrated the possibilities in cooperation and rescued themselves from oppression and starvation wages. That these cooperative principles have now been adapted to meet the interests of many industrial pursuits indicates a recognition of virtues other than protection or defense. By co-operation business methods have been improved and destructive competi-

tion has been eliminated, so that now we hear and read a good deal about co-operative production, cooperative buying, cooperative selling, and cooperative attitudes toward this or that matter of legislation. But none of these things register with the medical profession. And while we are not much disturbed or much concerned about the possibilities for good or ill to ourselves in cooperative methods we have become more and more the tools by which these methods are successfully carried out by other groups.

The members of the medical profession are too individualistic in their sentiments, in their ambitions and in their demands to pursue with enthusiasm any consistent cooperative program. It has been conceded by some of the most astute politicians in the state that we could have any reasonable legislation we desired if there was any sort of unanimity in the demand and apparent cooperation in the efforts put forth to secure it. It has been demonstrated now many times that doctors, like other people, have party affiliations and choice of candidates and, like other people, they may forget their party affiliations and revise their choice of candidates if the prospect for personal gain or personal aggrandizement seems to justify it, but unfortunately very few of them are willing to go to such extremes when the question involved concerns the medical profession as a whole.

In the last campaign it was soon learned that our members, or some of them, would exert themselves a little to help elect a candidate who was favorable to our bill, if he also happened to be their choice of the candidates, but there were very few whose choice of candidates was determined by their attitude toward our bill. In fact there were only about 200 of our members that in any way manifested a spirit of cooperation and

only 129 that were sufficiently interested to get a few signatures to petitions.

Why ask for more laws anyway? The ones we have are not very efficiently enforced and no one seems to care much whether they are or not, unless he himself suffers in consequence of such lack of enforcement and then he wants some one else to do it. There are men who are practicing medicine in this state who have never been licensed by any board of registration. There are numbers of men who have been properly licensed to practice medicine in this state who are practicing illegally because they have failed to register with the county clerk of the county in which they are located, as the law requires. Some years ago it happened in one of the most populous counties in the state that a physician went to the office of the county clerk for the purpose of registering but the clerk was unable to find the book used for the purpose, in fact, had forgotten there was such a book or such a law. There have been hundreds of changes of location during the past year and one wonders how many of these men who have moved into other counties have taken the trouble to register again. While this in itself is a matter of no particular consequence, it shows how carelessly we observe the provisions of the law for the passage of which so much effort was required.

It seems that the duty of enforcing the medical practice act doesn't lie very heavy on any one. No one wants to be the complaining witness in his own community although he may be able to accumulate the necessary evidence of violations of the law. The State Society was instrumental in getting the law passed and it seems a reasonable proposition that it should assume the duty of seeing that it is properly enforced. It might

even be a profitable investment for the Society to spend a little money in an effort of this kind.

—R—
CHIPS

That inhalations of carbon dioxide in oxygen may prove to be therapeutically effective in pneumonia is suggested. Henderson, Haggard, Coryllos and Birnbaum reported their studies along this line in Archives of Internal Medicine, January 1930. From their conclusions it appears that massive lobar or lobular atelectasis frequently occurs after operations and upon this condition post operative pneumonia may develop. Because the inhalation of carbon dioxide induces deep breathing it is applicable to the relief of this atelectasis and prevents pneumonia. They state that "In pneumonia it is the blocking of the lung airways, bronchi or bronchioli, by plugs of thick and sticky secretion which is the critical morbidic factor producing atelectasis and the conditions characteristic of an undrained infection." They suggest that successful treatment with carbon dioxide inhalations depends on early administration.

When do the tonsils lose their protective function and become a source of danger? How are we to determine when convalescence from an attack of acute rheumatism is so complete that we may safely remove diseased tonsils in order to prevent or minimize the chances of a further attack? These questions were suggested by Dr. Herbert Tilley in his paper presented at the Congress of the American College of Surgeons last October (Surgery, Gynecology and Obstetrics, Jan. 1930). Some cases from his own experience illustrate the need for more serious and thorough consideration of these matters.

Dr. Tilley also states that neither he nor any of his colleagues have had any pulmonary complications after tonsil operations. In fact he seems to think that the English operators are immune to these misfortunes.

On the hypothesis that the giant epithelial cell of the thymus subserves the

function of controlling the correct, normal and healthy rate of epithelial mitosis and cell division, Hanson (Minnesota Medicine, February, 1930) prepared an extract of thymus gland for the treatment of carcinoma. Cases are reported in which diagnosis had been made at operation, and the effects of subsequent treatment with this extract were confirmed by examination of the tissues at later operations. Very marked changes were observed, a necrosis, softening and absorption of at least a part of the tumor. The small number of cases reported give insufficient data for any definite conclusions as to the therapeutic value of the treatment or as to the real relationship of the means employed to the pathologic changes. Other cases are under treatment and later reports of these may be made.

Dr. Randell of Marysville writes: "It is a fact that there are very few of our soda fountain and soft drink parlors which have been using effective methods of sterilizing drinking glasses. It is not very likely that effective methods of sterilization will be enforced by law, therefore it has occurred to me that we could assist in preventing the spread of infections by educating and instructing our infected patients to use drinking straws instead of drinking directly from the glasses. Among other conditions those patients affected with syphilis, tuberculosis, Vincent's angina and oral sepsis should be so instructed. The doctor perhaps will recall this suggestion the next time he happens to meet the syphilitic tongue or lip at the soda fountain."

The following is the substance of a letter mailed to the registered physicians of the State by R. A. Raymond, Executive Secretary of the Crippled Children's Commission:

"The 1929 Kansas Legislature created a temporary commission 'to inquire into and report upon the number, distribution and condition of crippled children and physically disabled persons' of Kansas. This commission has been given all the powers of a legislative committee, as provided by law.

"The commission hopes to complete the taking of the census throughout the state during the first week in February. It is receiving the co-operation and assistance of the public, private and parochial schools. All teachers have been provided with census cards for securing and recording detailed information about individual crippled children.

"The state commission feels that the physicians can be particularly helpful in the recording of these cases. We are enclosing a copy of the census card which has been distributed to the schools. If, however, we could receive direct from you a record of cases with which you have been in contact, it would materially assist the commission in arriving at an understanding of the physical condition of a large number of cases. If you will let us know the number of cards you will need we will forward these to you at once. Should you prefer, however, to send in list from the names and addresses, the commission will be glad to receive them.

"Many of the children thus reported will have had medical care, undoubtedly. Others may have failed to receive treatment because of inadequate hospital facilities, or through lack of finances. Other needs will include special education, pre-vocational training, and suitable employment. The experience of individual physicians in all of these matters recorded on the census blank, will materially aid the commission in making definite recommendations to the next session of the Legislature."

In earlier times the possibility of being buried alive added much to the terrors of the living. One may now feel assured that when the undertaker has finished his job there is no danger of being buried alive. However in cases of sudden death friends and relatives seem to think, at least to hope, that life may not be extinct and insist that various methods of resuscitation be tried. The recent numerous reports of such resuscitations seems to have strengthened this hope. In regard to this matter the following is quoted from the J.A.M.A. of January 11: "The power to revive the

dead is one that the physician is often, but vainly, expected to exhibit. The alleged miracles of such revivals by injecting epinephrine into the heart are always widely reported in the newspapers. Physicians who have heard of these alleged resuscitations are tempted to employ the same means. If the death was real, no harm and no benefit results. Revival follows sometimes, perhaps not because of the treatment but in spite of it. In such cases there is indeed grave danger that serious injury may follow from the treatment that the patient has received. The evidence seems conclusive that, if the patient revives after such an intracardiac injection, he would have revived without it. Intracardiac injection is not a justifiable measure for resuscitation."

R Council Meeting

The annual mid-winter meeting of the Council was held in Kansas City, Kansas, in the Huron Building on January 21.

The meeting was called to order by the President, Dr. E. S. Edgerton at 10:30 a. m. Others present were Drs. L. F. Barney, Geo. M. Gray, L. B. Spake, P. S. Mitchell, O. P. Davis, J. T. Axtell, C. C. Stillman, J. F. Gsell, Alfred O'Donnell, I. B. Parker, C. H. Ewing, W. F. Fee, J. F. Hassig and W. E. McVey, Editor.

The nature of the program for our 72nd annual meeting which will be held in Topeka May 6, 7 and 8, 1930, was discussed, and on request of Shawnee County Medical Society it was unanimously voted to devote the program on Wednesday, the second day of the meeting, to addresses by our five guests. The first and third days of the meeting will be devoted to papers by our own members. The names of several doctors of national and international reputations were submitted with a view of extending invitations to them.

Dr. Morris Fishbein, Editor of the American Medical Association Journal, accepted an invitation a year ago to be our guest at our next annual meeting, and it was suggested that there be a public meeting; but this matter was left to the judgment of the local committee.

It was decided to hold the first meeting of the House of Delegates on Tuesday at 7:30 p. m., and a joint meeting of the Council with the county secretaries at 12:30 p. m. on the first day of the meeting at a complimentary luncheon to the secretaries.

Dr. McVey presented the following amendment to Section 1, of Article X of the Constitution to read as follows:

ARTICLE X—TERMS OF OFFICE

Section 1. The term of office of the President shall be for one year and shall begin on the first day of January following his election. The term of office of the President-elect shall be from the date of his election until the first day of January following. The term of office of the Vice President and the Treasurer shall be for one year. The term of office of the Secretary and of the Councillors shall be for three years. All of these officers shall serve until their successors are elected and installed.

Dr. P. S. Itchell, councillor from the Third District, reported in detail some of the difficulties he has been called upon to adjust among the organizations in his district. In one instance the controversy involved the ethical question of commercial contract practice.

Dr. Mitchell's report was approved and placed on file and his action was unanimously endorsed. The other Councillors made verbal reports, also the Treasurer. Dr. McVey, Chairman of the Board of Public Relations made the following report.

BUREAU OF PUBLIC RELATIONS OF THE KANSAS MEDICAL SOCIETY

May 1, 1929, to January 1, 1930

Received	
Balance on hand May 1, 1929..	\$152.64
Received May 1, 1929 to Jan. 1, 1930.	800.00
	\$952.64
Expended	
Salaries and Expenses.	\$739.83
Postage.	50.15
Stationery.	22.25
Miscellaneous:	
Exec. Sec. Expense to Meeting in K. C.	5.40
Telephone calls	2.10
	\$919.73

Balance on hand January 1, 1930. \$132.91

Accepted.

Dr. McVey, Editor, made the following financial report of the Journal:

JOURNAL OF THE KANSAS MEDICAL SOCIETY
 Receipts and disbursements by Editor,
 January 1, 1929, to January 1, 1930.

Received		
Journal Advertising	\$5,159.25	
Sales and Subscriptions	288.41	
Other Sources	5.58	
Kansas Medical Society	2,000.00	\$7,453.24
Expended		
Printing Journal	\$2,559.30	
Stock and Stationery	746.75	
Salaries and wages	2,520.00	
Postage.	171.73	
Electrotypes.	144.74	
Office rent	300.00	
Two Filing Cabinets	36.00	
Miscellaneous	73.18	\$6,551.70

Net amount earned\$ 901.54

If the normal income from subscriptions at \$2.00 per member is calculated as a part of the receipts, instead of the amount paid the editor, the Journal made a clear profit last year of \$1,901.54 over and above all expenses.

Receipts and disbursements by Editor,
 May 1, 1929, to January 1, 1930.

Received		
Advertising	\$3,531.92	
Sales and Subscriptions	44.33	
Other sources	5.38	
Kansas Medical Society	2,000.00	\$5,581.80

Expended		
Printing Journal	\$1,723.30	
Stock and Stationery	503.25	
Salaries and wages	1,680.00	
Postage.	110.15	
Electrotypes.	144.74	
Office rent.	200.00	
Miscellaneous.	50.27	\$4,412.01

Balance. \$1,169.79

Accepted and filed.

On motion by Dr. Hassig, regularly seconded and carried Dr. McVey was re-elected Editor of the Journal for the ensuing year.

The Secretary presented his expense account since May 10, 1929.

Stenographer salary 8 months	\$600.00
Stamps	60.00
Miscellaneous.	44.91
Total.	\$704.91

Which was allowed.

Meeting adjourned.

J. F. HASSIG, Secretary.

— R —

SOCIETIES

DECATUR-NORTON COUNTY SOCIETY

The Decatur-Norton County Medical Society held its regular meeting at the Commercial Club rooms, Norton, Kansas, Wednesday, January 22, 1930, 2:30 p. m.

The following interesting program had been arranged:

Business meeting, election of officers, payment of dues. Paper on Vincent's Angina by Dr. E. M. Bryan, Sanatorium; Diagnostic Problems in Urology, by Dr. Nels F. Ocherblad, Kansas City, Missouri, and a paper by Dr. Robert W. Diver, Clay Center, Kansas.

Dinner at Kent Hotel, 6:00 p. m.

W. STEPHENSON, M.D., Sec.

SHAWNEE COUNTY SOCIETY

The February meeting of the Shawnee County Medical Society was held at the Hotel Kansan on Monday evening, February 3, 1930. The officers of the Society designated this meeting in honor of Dr. C. A. McGuire. Dr. S. R. Slamaker of Chicago was the guest speaker. Dr. Slamaker discussed "The Interpretation of Some Heart Murmurs."

EARLE G. BROWN, M.D., Sec.

DICKINSON COUNTY MEDICAL SOCIETY

The Dickinson County Medical Society met at the Chamber of Commerce Rooms at Abilene, Kansas, as guests of the Abilene doctors. There were ten doctors present. Dr. S. N. Chaffee read a paper on Nostrums and Proprietary Remedies. Dr. J. W. DeMand of Lincolnville, Kansas, told of the post graduate work which he recently took in Chicago. Both papers were much enjoyed and well discussed. Dr. T. R. Conklin, Sr., was elected delegate to the state convention. The next meeting will be in Herington, Kansas.

DR. DANIEL PETERSEN, Secy.

— R —

DEATHS

Harold W. Anderson, Salina, aged 27, died at Bell Memorial Hospital, December 15, of lobar pneumonia. He graduated from the University of Kansas School of Medicine in 1928 and at the time of his death was an instructor in pathology in that institution.

J. Watson Campbell, Halstead, aged 46, died January 27. He was graduated from the University of Kansas School of Medicine in 1914. He was a member of the Society.

James Monroe Winegar, Hamilton, aged 79, died December 10, 1929, of cerebral hemorrhage. He graduated from College of Physicians and Surgeons, Keokuk, Iowa, in 1884.

—R—

MEDICAL SCHOOL NOTES

Dr. Thomas G. Orr and Dr. Frank F. Teachenor attended the meeting of the Western Surgical Association at Del Monte, California, which was held in December. Dr. Orr read a paper on "Ascending Biliary Infections Following Cholecystoduodenostomy." Dr. Teachenor was re-elected Secretary and Dr. Orr was re-elected Treasurer. Dr. L. F. Barney was elected a member at this meeting. The next meeting will be held in Kansas City, Missouri. Dr. Orr was appointed Chairman of the Committee on Arrangements.

Dr. Russell L. Haden was presented with the gold medal of the Radiological Society of North America at the society's fifteenth annual meeting in Toronto, Ontario, December 2, for his research work in "*x*-Ray Study of Dental Infection." Only eighteen persons have been awarded the radiological society's gold medal, including Mme. Curie of France. Dr. Haden is Head of the Department of Experimental Medicine of the Medical School.

Dr. Ralph H. Major read a paper before the Tri-States Medical Association, Memphis, Tennessee, January 14th, on "Some Phases of Arterial Hypertension."

The following members of the faculty were on the program of the Southern Medical Association at its recent meeting in Miami, Florida: Dr. E. T. Gibson, Dr. Paul F. Stookey, and Dr. Ferdinand C. Helwig.

Dr. Robert M. Isenberger has returned to Kansas City to resume his teaching at the Medical School at the beginning of the second semester.

Dr. Harold W. Anderson, Salina, Kansas, aged 27, died at the Bell Memorial Hospital, December 15, of lobar pneumonia. Dr. Anderson was Instructor in

the Department of Pathology at the Medical School.

—R—

The Bacteriology of Infant Diet Materials

It is not generally realized, the extent to which Mead Johnson & Company carry their research.

Efficient and systematic as are the research activities carried on for years in their own laboratories, this progressive house is constantly adding fellowships at leading universities and other institutions.

One of these has recently corroborated* a fact of great importance to all who feed infants: No Mead Product contains hemolytic streptococci or other pathogenic bacteria.

The significance to pediatricians of this brief statement lies in the fact that the presence of hemolytic streptococcus has been suspected in infant diet products, its relationship to scarlet fever, septic sore throat, enteritis, etc., naturally being a source of alarm.

It is reassuring to all physicians to know that not only have Mead Products never been under suspicion but that from authoritative unbiased sources comes additional proof that as a result of careful technique and long experience, Mead Products are bacteriologically clean and safe to prescribe: Dextri-Maltose, Recolac, Casec, Lactic Acid Milk, Powdered Protein Milk.

*New York State Agricultural Experiment Station Bulletins Nos. 153 and 154.

—R—

Call for the Eleventh Convention for the Revision of the Pharmacopoeia of the United States of America

Boston, Mass, January 25, 1930.

In compliance with the provisions of the Constitution and By-Laws of the United States Pharmacopoeial Convention, the President of the Convention hereby invites the several bodies, entitled under the Constitution to representation therein, to appoint delegates to the Eleventh Decennial Convention to meet in Washington, D. C., on May 13, 1930, and the attention of all concerned is invited to the following extract from the Constitution and By-Laws:

Chapter I, Article VIII, of the By-Laws of the United States Pharmacopœial Convention provides that the President of the Convention:

"shall issue on or about the first of May of the year immediately preceding that of the decennial meeting, a notice inviting the several bodies, entitled under the Constitution to representation therein, to send delegates to the next meeting. He shall repeat the notification eight months later, and shall request the medical and pharmaceutical journals of the United States to publish the call for the said meeting."

Article II, Section 1, of the Constitution provides:

"The members of the United States Pharmacopœial Convention, in addition to the Incorporators and their associates, shall be delegates elected by the following organizations in the manner they shall respectively provide: Incorporated Medical Colleges, and Medical Schools connected with Incorporated Colleges and Universities; Incorporated Colleges of Pharmacy, and Pharmaceutical Schools, connected with Incorporated Universities; Incorporated State Medical Associations; Incorporated State Pharmaceutical Associations; the American Medical Association, the American Pharmaceutical Association, The American Chemical Society, the National Association of Retail Druggists, and the National Association of Boards of Pharmacy; *provided that no such organization shall be entitled to representation unless it shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of the corporation.*"

Section 2 of the Constitution provides:

"Delegates appointed by the Surgeon-General of the United States Army, the Surgeon-General of the United States Navy, and the Surgeon-General of the United States Public Health Service, the Secretary of Agriculture, the Secretary of Commerce, the Association of Official Agricultural Chemists, the Association of American Dairy, Food and Drug Officials, the National Wholesale Druggists'

Association, the National Dental Association, the American Drug Manufacturers' Association, the United States Division of Customs, and the University of Havana, and by the organizations not hereinbefore named which were admitted to representation in the Convention of 1900, shall also be members of the corporation. Each body and each branch of the United States Government above mentioned shall be entitled to send three delegates to the meetings of this corporation. But no such delegates as are provided for in this article shall be members until their credentials shall have been examined and acted upon as provided for by the By-Laws. Delegates admitted as members at any decennial meeting shall continue to be members of the United States Pharmacopœial Convention until their successors shall have been appointed and admitted as delegates to the ensuing Convention and no longer."

REID HUNT, M.D.,

President of the United States Pharmacopœial Convention of 1930.

LYMAN F. KEBLAR, M.D.,

Secretary, 1322 Park Road, N. W., Washington, D. C.

—R—

Treatment After Prostatectomy

L. P. Player, San Francisco (J.A.M.A., Nov. 2, 1929), found seminal vesiculitis in 25 per cent of sixty carefully followed cases, which he believes warrants the statement that the surgeon's responsibility does not cease when the closure of the wound has taken place and voiding has been established. He concludes that recognition and proper treatment of seminal vesiculitis occurring after prostatectomy are just as important factors in the comfort and longevity of the patient as preoperative care is to a safe prostatectomy.

—R—

Postoperative Complications of Prostatectomy

The study of the postoperative complications of prostatectomy is an aid in further reducing the mortality of this operation, according to A. H. Peacock, Seattle (J.A.M.A., Nov. 2, 1929). The chief complications are renal failure, cardiac failure, pulmonary infections, urinary in-

fections and embolism. These complications can be handled better by giving a longer time to preliminary drainage and preparation. The prostatic patient often has multiple pathologic changes and should be studied thoroughly. In 117 cases, the mortality was 6.8 per cent; of the deaths 37.7 per cent were due to renal failure, 25 per cent were due to cardiac failure and 25 per cent to pulmonary disease.

— R —

Prevention of Deformities in Chronic Arthritis

The deformities of arthritis are more serious, as far as the patient is concerned, than any other feature of the disease, since they persist and frequently get worse after the arthritis has ceased unless they are prevented. It is this feature of the treatment of arthritis which Loring T. Swain and John G. Kuhns, Boston (J.A.M.A., Dec. 14, 1929), emphasize particularly in this paper, believing that prevention is possible. As to the methods of prevention in general, their experience has given them a few rules, which are that: (a) When a case of arthritis is first seen, a careful appraisal of the condition of the various joints should be made and steps should be taken at once to prevent the usual deformities from occurring. (b) Throughout the treatment constant vigilance must be exercised to prevent the assumption of positions likely to lead to deformity. (c) The physician should also bear in mind that rest and exercise of the joint are essential to its well being. (d) Motion should be encouraged in all stages of the disease but must never be forced; the activity should consist wholly of the patient's attempt to do what he can in the normal use of the joint. (e) Rest in a position least likely to cause strain or contracture should be secured when the joint is not in use, particularly at night, as position during sleep is most important. Each joint is taken up in turn and the treatment employed by the authors to prevent or lessen deformities is detailed.

— R —

RELAXATIVES

"And do you ever lose yourself in your work?"
 "Yes."
 "What is your work?"
 "Exploring Central Africa."

"My friend," asked the missionary, "are you traveling the straight and narrow path?"

In silence the man handed over his card which read, "Signor Ballancio, Tightrope Walker."

ERYSIPELAS ANTITOXIN

Lederle

THE outstanding advantages of the treatment of erysipelas with Erysipelas Streptococcus Antitoxin, Refined and Concentrated, are:

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THE JOURNAL

of the

Kansas Medical Society

VOL. XXXI

TOPEKA, KANSAS, MARCH, 1930

No. 3

A Review of Some Points in Tuberculosis of Childhood

A. J. BRIER, M.D., Topeka

Read before the annual meeting of the Kansas Medical Society, at Salina, Kan., May 7, 8 and 9, 1929.

The knowledge of the occurrence of childhood tuberculosis has been common property for some time but what was known had not been given its proper place in the list of medical problems until the past few years. Although observations have been made it took long for them to bear fruit.

For all this there are well defined reasons which are: 1, the confusion of the terms tuberculosis, phthisis and scrofula; 2, Hippocrates and the permeation of Hippocratic influence into modern times. These will be taken up in the reverse order and dispensed with very summarily.

Hippocrates recognized the disease and by the Greeks it was designated as phthisis or a consuming disease as of course is well known. His was the dictum to the effect that tuberculosis makes its invasion between the eighteenth and the thirty-fifth years. This was further promulgated by the famous Sydenham and again by A. B. Sheppherd in 1877, in his Gulstonian lectures on the "Natural History of Pulmonary Consumption." Moreover Sheppherd presented an age incidence table of 849 cases, in which the first three items are the most interesting.

	M	F	Total
Five years and under. . . .	1	2	3
Ten years and under. . . .	9	7	16
Fifteen years and under. . .	20	26	46

Considering the importance of the Hippocratic school and its permeation even into modern medicine, it is of small wonder that any different outcome should occur in relation to the development of the study of tuberculosis. That was the era of much medical dogma and

the word "law" is often to be found in the writings of this period. Added to this is the fact that Sydenham embraced the faith which brought it more and more followers and even as late as 1877 we find this etiological "law" which served to swerve the chain of thought into some error.

A year previous to the Sheppherd lectures, Austin Flint, (1876) said in his work "Phthisis," "My collection embraces but one case under ten years of age. As is well known, cases in which pulmonary affections constitute the exclusive or chief manifestations of tuberculous disease are comparatively rare during the first decade of life. . . ."

(Cornell's report of 10 per cent of 855 cases show definite pulmonary T. B.)

Assuming a somewhat critical point of view we are led to two observations: 1. If there had been a correlation which even then would seem warranted more cases of frank pulmonary tuberculosis in childhood would have been noted. 2. There was a definite lack of willingness to be at counter with the accepted teachings. Correlation was then not possible of establishment between the various lesions such as scrofula and other lesions then recognized, even though they were considered with phthisis. However, even though this be true, in the light of our present information we recognize too large a discrepancy in the proportion of cases of frank pulmonary involvement in children.

From this we see the state of the knowledge concerning tuberculosis in general and the misconception held as to its relation to children by even the greater men of medicine fifty years ago.

With this in mind we will step back one more step in the history of tuberculosis and thereby paradoxically go one step forward. We refer to the work of Pierre-Charles-Alexander-Louis (Recherches on Phthisis. 1844), in which he

considers the etiology of phtthisis. It is upon him we are led to feel that the light began to be cast. His seems to be the first analytical study of a series of autopsies.

To read at random through the work of this man who, as Osler says, gave us the first concise clinical study of tuberculosis makes us realize that in him we have the master of his time and his presentations and the minuteness of his pathological observations are even in this age worthy of emulation.

It is, however, his observations concerning the occurrence of the tubercular processes in the child and connecting the occurrence of pathology in the lymph glandular system with tuberculosis in a definite way that attracts our interest. In the data given by him he is able to show the occurrence of tuberculous infections in 57.5 per cent of 709 autopsies tabulated between the ages of 0 and 14 years. This figure is not far short of the autopsy findings from some sources

test and includes no case of clinical tuberculosis. The observations were made by Veeder and Johnston of St. Louis; Hamburger and Monti of Vienna; and by Pirquet, also of Vienna. I will not burden you with the recitation of the whole table but simply the totals and averages. St. Louis series, 1,129 cases with 21 per cent positive; Hamburger and Monti, 532 cases with 51 per cent positive; Pirquet, 1,129 cases with 22.5 per cent positive cutaneous reactions. There is, though not shown in this review, a marked increase in the reaction percentages as the age is increased. From twelve to fourteen years, 38 per cent, 94 per cent and 70 per cent respectively in the tables reviewed.

From the viewpoint of post mortem findings, and the summary just given, we can see the astounding problem put before those most interested in tuberculosis in general as well as those interested from the standpoint of pediatrics.

Institution	Age of Patient	No. of Autop.	No. Tuber.	% With Tuber.
1—N. Y. Inf. Asylum	Under 2½ years	726	56	8.0 %
2—Babies Hosp. 1st series	Under 3 years	1000	168	16.8 %
3—Babies Hosp. 2nd series	Under 3 years	1320	178	13.5 %
4—Babies Hosp. 3rd series	Under 3 years	2024	184	9.1 %
5—N. Y Found Hosp.	Under 3 years	1000	136	13.6 %
6—Muller's, Munich	All Ages	500	200	40.0 %
7—Hamburger, Vienna	All Ages to 14 years	848	385	40.0 %
8—Hamburger, Vienna	Two years and under	497	120	24.4 %

as late as 1907. Concerning the bronchial glands Louis says "these bodies very frequently undergo tuberculous transformation, not only in children, in whom all accurate observers coincide in regarding the transformation of these organs as even more frequent than that of the lung. . . ." I was unable to find such an allusion so definitely made previous to this time.

With this very short review we see possibly why, with reference to the child, tuberculosis was not considered at a much earlier time.

To now consider the occurrence of childhood tuberculosis from our more modern conception, some familiar tables will be presented. One table goes to the opposite extreme of the work done by earlier observers as it depends wholly upon the cutaneous and intracutaneous

In the first five items of this table we have seen those cases reported from institutions of this country and the sixth, seventh, and eighth items from European sources. This wide variation is due to the actually greater number of cases of tuberculosis among European children.

This represents apparently an average from autopsy statistics from various observers and are as follows:

1st 3 mos.	0—2 %
2nd 3 mos.	16—17 %
2nd 6 mos.	22—26 %
2 to 10 yrs.	67 %
10 to 15 yrs.	64—77 %

From this subject we will enter into a review of the modes of infection which is a question which has been a storm center ever since 1882 when Robert Koch demonstrated that the disease was caused by the B. Tuberculosis. Even as early

as 1843 transmission by inoculation had been accomplished by Klencke and from then until 1892 when Theobald Smith offered another complexing contribution, the battle raged.

In dealing with this subject we have at least two points forced upon our attention, i.e., the organism and the site of the lesion. In the subdivisions of the first we find the major theme of this consideration. And from statistical study we find the human type of the organism taking the place of first importance, occurring in 77.7 per cent of 543 cases in children up to the age of 16 years.

It is well recognized that the offending organism is predominately of the human type. That this is the condition that exists is shown by the table from Park and Krumweide presenting data on 1,038 cases as follows: (Pottinger's Clin. Tuberc. Vol. 1, p. 58).

	Human T.B.	Bovine T.B.
0-5 yrs.	73.5%	26.5%
6-11 yrs.	77.0%	25.0%
16 and over.....	98.6%	1.31%

A summary of 2,527 cases of tuberculosis shows the occurrence of the bovine type in the following proportions:

Adults 10 yrs. and over.....	2.9%	Bovine T.B.
Adults 5-10 yrs.	28.9%	Bovine T.B.
Children under 5 yrs.	32.4%	Bovine T.B.

This summary varies slightly from the one given above leaving, however, the balance of power well in favor of the human type.

The route via which the organism enters the body, whether that of Cornet and Koch and designated as the areogenic route, by the droplet infection of Flugge or by ingestion cannot be discussed even briefly in this consideration, but the changes of all of these routes being of more importance than we are inclined to ascribe to them seems highly probable. The child receives the organism by one or all of these routes and that each is of tremendous importance is the point to be considered. To limit our concepts to any one route would be to underestimate the importance of the other possibilities.

Assuming the presence in the host of

the tubercle bacillus, the question is, how does the organism reach that locality at which it produces the characteristic lesion? And to this question we add the statement that except in isolated instances the lesion cannot be foretold should the point of invasion be known.

When we consider the fact that in the production of the tubercle the bacillus must traverse the mucous membrane, and in so doing leave no wake, we see that there is another series of events that in some way must be accounted for. There are probably numerous ways of making this accounting. Pottinger, Lawrason Brown, MacCallum and others speak of the invasion of the organism into the lymph and blood streams and of its being carried by the former directly into the blood current but just how these processes occur is wholly conjectural. It is, however, of great interest to think of one possibility. We will assume that the organism has been carried in via the mouth. This infected material is swallowed and as it passes over the pharyngeal wall, possibly forced deep into the tonsillar fossae. (Colo. Med., Jan. 1927, Leyda). This is inferred as a possibility from the work done with dye stuffs and seems wholly applicable to our consideration. Add to this the fact that the sub-epithelial structure is almost absent in the deep fossae and we are able to visualize a route by which the organism may gain access to the lymph and blood streams with the least possible resistance. To offer this as a possible explanation of the ingestion route, at least in part, seems to us rather logical. Teeth must also be considered.

We are able to go one step farther if we turn to the work of Florence Sabin and Dean in their explanation of the means by which the bacillus arrives at its final destination. Briefly their idea is that the organism is phagocytosed by a monocyte in which it multiplies. The monocyte undergoes changes which makes it impossible to pass in its journey. Here occurs a multiplication of nuclei and here is formed what Alexander Maximow possibly meant by his reference to the "resting wandering cell."

At this point with its resulting changes is probably formed the tubercle.

It is here we have possibly the element which causes the stimulation of the tubercle formation as it is conceived by Alexander A. Maximow. That this is at least according to part of his principles we may assume from the review of his experiments on the inoculation of cultures of tissue cells (Nat'l Tb. Assn., 1925).

In regard to the identification of tuberculosis we will consider first the history. Preeminently in this reflection stands out the family history. I am told by a pediatricist of a western city, in whose clinic many tubercular children are seen, that the cases peculiarly enough seem to receive their infection from a tubercular father and that their cases are the results of contact or fomites. Further considering the importance of family contact we will quote the conclusions of Opie and McPhedron (J.A.M.A., Nov. 6, 1926) which is as follows: "This study of the contagion of tuberculosis in families has definitely shown that latent tuberculosis is transmitted both to children and adults. Though in most instances it remains hidden, it not infrequently produces manifest disease."

The past medical history of the child must also be considered and in it is important to carefully inquire concerning the occurrence of an attack of measles, pertussis or any other infection of the respiratory system, the convalescence from which seemed somewhat extended. It is contended by some of the disciples of allergy that these infections, no matter how slight, tend to destroy the allergic resistance that the individual may have to tuberculosis. Whatever the process, we are aware of the fact that these respiratory infections are often times precursors of a tuberculous infection.

The symptoms of this form of tuberculosis are (Chadwick pp. 253-4) as follows:

Local: Frequent colds, coughs, hoarseness, rarely loss of voice. All may be absent and when present may be transitory.

Constitutional: Undue fatigue, lassitude, nervous irritability, anorexia,

weight normal but more often subnormal; retardation of growth, rarely loss of weight, tendency to profuse perspiration without apparent cause, occasionally brief periods of unexplained rise of temperature (above 99.6° F., rarely over 100.5° F.) flabby muscles, fatigue posture, phlyctenular disease (Keratitis, conjunctivitis) scrofuloderma and lupus.

Physical Signs: Paravertebral dullness; voice and breath sounds normal. Rales are rarely found and when present are due to other causes than tuberculosis.

Roentgen Ray Findings: 1. Prominent bronchial trunks with definite beaded appearance or nodular in outline extending from the hilum. 2. Enlarged lymph nodes, varying in number and density, embedded in the thickened tissue of the hilum. 3. Diffuse shadows of varying density throughout hilum. Occasionally there are cloudy masses with irregular outlines projecting into the adjacent tissue, resulting from the involvement of the deep parenchyma."

Upon the basis of this standard David Zacke (J.A.M.A., Feb. 7, 1926) presents a paper based upon the study of 2,285 school children in which he shows in numerical analysis the occurrence of the symptoms outlined above as indicative of hilum or tracheo-bronchial tuberculosis. He makes his study on two bases: 1st. Reactors and Non-Reactors. 2nd. "Hilum, Suspicious and Negative" cases.

In his first table there is a difference noticeable in the symptoms between the reactors and the non-reactors, but the most noticeable difference is in the weights based upon the Baldwin-Wood weight-height-age table. In this 64.3 per cent of the reactors were found to be more than 7 per cent underweight against 49.2 per cent of the non-reactors.

In the second division, into "hilum," "suspicious" and "negative" cases, the weight element is of the most importance and shows 76.5 per cent of hilum, 71.8 per cent of the suspicious and 58.4 per cent of the negative group to be 7 per cent or more underweight. In this division, fatigability, nervousness and frequent colds were seen to diminish toward the negative class.

A third table shows the relative fre-

quency of interscapular dullness in relation to the two general groups.

Non-reactors	35.0%
Reactors	41.9%
Hilum	74.0%
Suspicious	51.0%
Negative	21.7%

In conjunction with this it may be well to quote again from the communication referred to above which was in response to the query: "What, in your opinion, are the most important diagnostic points relative to childhood tuberculosis?" The answers given here present the opinion of one who has had much opportunity to see many tubercular children. As follows:

1. Persistent p.m. rise in temperature (occasionally rise in a.m.)
2. Fatigue and failure to gain.
3. Positive tuberculin reaction. We use both the von Pirquet and if negative repeating with the Montoux.
4. *x*-Ray. This occasionally shows hilus tuberculosis with enlarged tracheo-bronchial glands.
5. Physical examinations are usually of no benefit in diagnosis of tracheo-bronchial tuberculosis and this is the type usually found in children.

It may be well to comment briefly upon the above to the effect that a positive cutaneous test is not always evidence of an active lesion but with the other findings it presents certainly a most highly suggestive picture. It will be also recalled that the tuberculin reaction leads to wrong conclusions in those individuals who are so suffused with the tubercular toxins that the introduction of but a relatively small amount of the antigen will cause but a small if any reaction. Concerning what was said of the value of the physical examination we will simply say that the simpler methods are of the most value. In fact, inspection is of all the most valuable.

It is the stand taken upon the use of tuberculin tests by McPhedran that is most highly interesting and useful. Opening this subject he says: "The quantitative tuberculin reaction is important at those ages at which it is most desirable to recognize the presence, pathological condition and significance of tracheo-bronchial tuberculosis. . . ."

"It has been found that in the urban population studied, marked reactions with the lowest quantity used, 0.01 mg. O. T., are the rule at maturity, but that the younger the child the more often is such a susceptibility a result of intimate contact with an open pulmonary tuberculosis. And of those children having a more severe reaction almost two-thirds show roentgenographic evidence of the primary complex in a large part of the lesions involving the gland."

He says in substance that in 90 per cent of those showing tracheo-bronchial lesions the reaction was positive and that demonstrable hilus shadows stand in secondary importance to the tuberculin quantitative reaction inasmuch as it is not for three years after demonstrable involvement occurs that calcium deposition, in many instances, permits of *x*-ray establishment. The fact that marked reaction to 0.01 mg. O. T. is shown in children out of proportion to that which may be expected may be indicative of the presence of some heretofore unsuspected open lesion among the intimates of the patient.

We will quote from Opie and McPhedran (J.A.M.A.) "Comparison of the incidence and intensity of tuberculin reactions and demonstrable lesions in contact and non-contact families point to the paramount influence of contagion on the development of tuberculous disease in children. There is reason to believe that from the latent infections of individuals heavily infected in childhood develops the manifest tuberculosis of young adult life, economically the most wasteful form of the disease and in its turn the most prolific source of latent disease in others."

In conclusion we present one point to wit, let tuberculosis be in the foreground of the picture when considering indefinite symptomatology in childhood.

—R—

It is necessary to stimulate business in order to pay the cost of all the junketing and conventioning that is done in order to stimulate business.—San Diego Union.

* * *

Babies in Newark, U. S. A., wear bibs inscribed "I don't want to be ill. Do Not Kiss Me." There are faces like that in this country, too.—The Passing Show (London).

Address to the Kansas Medical Auxiliary,

L. F. BARNEY, M.D., F.A.C.S.

President of the Kansas Medical Society.

Delivered at Salina, Kansas, May 8, 1929.

Members of the Kansas Medical Auxiliary I bring to you from the Kansas Medical Society the appreciation and felicitation of every member of our organization.

Although at times we may not have always shown it openly, all of those of our membership who have given study and consideration to the purposes of your organization feel that you are our best and closest ally. Composed as it is of a membership dearer to us than life why should we not be anxious and interested in your organization; more especially since its objects are so unselfish, not to supplant us, but to aid us in our primary calling to increase and promote the welfare, happiness, prolongation and perpetuation of mankind.

Personally, I wish to thank your president, Mrs. Scales, for not only the honor, but the privilege of addressing you today. Having so recently been raised from the ranks to the exalted position conferred upon me I found myself like many others of the ranks, not fully appreciative of our greatest assets, especially the Kansas Medical Auxiliary. Had I not been asked to address you this darkness might have been continued but inasmuch as light has been shed upon me I have requested that more light be diffused by inviting your president and your national president to appear before our body during this session.

In a communication from your president she informs me that your printed matter is very limited but I wish to congratulate you upon the character of your national journal and bulletins. I would suggest that in state matters during your toddling days until you are able to walk unassisted, possibly the editor of the journal of our organization would furnish the necessary space in our publication. Already I have noted some articles there and I was much pleased to see that Doctor McCormack, editor of the Journal of the Kentucky Medical Society, gave the entire December issue to their auxiliary.

Time brings many changes. The practice of medicine is not the same as it was when I was a boy. Home conditions of the physician's family are different. I remember hearing my mother tell of a messenger following my father, a pioneer Kansas physician, more than one hundred miles on horseback to officiate at the birth of his first heir. When I began revolving in my mind what I would say to you, I recalled seeing my mother many times getting the family ready to go on a visit, for in those days a call on a neighbor a few miles away was an all day visit, and just before our departure a messenger would ride up and off in some other direction my father would go to return hours, or even days later, according to the exigencies of the case. Had he not have had an unusual disposition my mother might have felt like the answer the wealthy beautiful maiden gave the young, ardent, profane, irritable obstetrician when he pressed his proposal. She said: "I have everything you can give me. I have a stove that smokes, a dog that growls, a parrot that swears and a cat that stays out all night. Why should I marry you?" Upon remembering these and many other things in my early life I thought of addressing you as the Husbandless Wives. As I thought further I recalled some of my client's home lives, living in hotels or apartments or homes supervised by servants because their wives were too busy attending their clubs, chiefly bridge and that this was another club, I then considered addressing you as the Queens of the Wifeless Husbands. I thought still further and now after having read your "Facts concerning the Woman's Auxiliary of the American Medical Association" I am going to address you as the Physician's Partner.

Many years ago drugs were about the only armamentarium of the physician and these were used only symptomatically and empirically. In other words certain things were given because without logic or reason they were supposed to, or said to, relieve or change certain symptoms. Later as experience increased the symptoms were associated into groups, or symptom complexes, and these different groups of symptoms were

called different diseases and diagnoses were made. This aroused further interest in knowing why these diseases brought about these particular symptoms and the pathology or departure from normal tissue was investigated by post mortems, by surgical procedures during the course of the disease when indicated, and by animal experimentation by producing these diseases in animals and then humanely studying them by vivisection.

Having learned these, the symptomatology, the diagnosis and the pathology naturally the cause, or the etiology, of the morbidity was sought. When the cause which usually proved to be some form of infection had been learned an effort was made to find something that would destroy the infection in the body and in many diseases this has been discovered, e.g. quinine in malaria, antitoxin in diphtheria, etc. Were we satisfied with this? No! We are now in the midst of what appears to be the final milepost in regard to many diseases. If we could destroy the cause of the disease after it had entered the human economy, could we not prevent its entrance into the body? This, too, has been accomplished in many diseases; as examples: We have destroyed the breeding places of mosquitoes which infected the individuals with malaria and yellow fever, and we have built up a resistance in the child with toxin-antitoxin which prevents the development of the diphtheria bacillus in his body. "An ounce of prevention is worth a pound of cure" is an old truism and we are now in the era of preventive medicine. We are now aware that there is no excuse for typhoid fever, yellow fever, malaria, smallpox, diphtheria, tuberculosis and many other devastating diseases if we will only cooperate and use known methods to prevent them.

Years ago you heard much about homeopathy, allopathy and eclectics. What were they and what has become of them? They were different schools of medicine having special systems or theories for the cure of all diseases. Each had much which was correct and much more which was incorrect. They have now quit their scrapping and all

have combined to use that which they had that was of value along with everything else known for the maintenance of the health of the public and are known as the regular physicians, the Doctors of Medicine, the M.Ds., the organized, recognized, altruistic system of medicine. They use everything, either separately or combined in the prevention and treatment of disease according to the particular indications in each individual case regardless of whether it be drugs, surgery, massage, manipulations, electricity, serums, vaccines, diet, sunshine, rest, water, heat, mechanics, etc. To use these successfully it is essential that one have the knowledge of the fundamentals, viz.: anatomy, physiology, chemistry, bacteriology, pathology, symptomatology and diagnosis, the basic sciences. Also he must have the ability to select and apply these as they are needed. Such is the present state of the practice of the regular system of medicine.

What about the cults? They are the chief obstructionists to medical progress. They are groups or schools who treat all diseases by one particular system of treatment regardless of the cause, the anatomical or physiological changes, the symptoms or the diagnosis. They are working as did the allopaths, homeopaths and eclectics during the dark era in medical history. Who compose the membership of these? Mostly the uninformed or misinformed medically, a few who use them for prestige and more who use them for financial gain. Are the members educated? Many of them are highly educated along non-medical lines. Medicine has advanced so rapidly and it has been only such a short period of time since the practitioners knew less than the laymen of today it is but natural that the public will fall for and listen to new theories having the application of yesterday. Do their practitioners study the basic sciences, anatomy, physiology, pathology, chemistry, bacteriology, hygiene, symptomatology and diagnosis which you and everybody knows are essential to the study of the human economy and the prevention and treatment of its diseases? Some of these cultists claim that it is not necessary to know anything of these

branches, not even to make a diagnosis. Others of them claim they do study some of these branches in their schools, even using the same text books that the M.Ds. use and write but that they should not be asked to pass an examination before any board except of their own members, not even an impartial board, because they study these texts from a different angle than we do. Can you imagine their studying the same text books, anatomy for instance, Gray, Gerrish, Piersol, etc., and getting an entirely different interpretation than their authors?

There are other groups of cultists or obstructionists, e.g. the antivaccinationists and antivivisectionists who retard progress by preventive legislation. They are usually stimulated by the leaders of the cults who treat diseases.

Are you and the public willing to turn back and live under conditions which existed when nothing was done toward the diagnosis and prevention of disease and use a single and uniform method of treatment for all morbidity? No! How can they and how are they being eliminated? In 1920 there were thirteen schools of osteopathy and in 1927 eight. There were 79 schools of chiropractics in 1920 and in 1927 there were only 40 and in all of the surviving schools the number of graduates were reduced likewise. All of the other cult schools, naturopathy, optometry, etc., are likewise on the decline except physical therapy and chiropody which are temporarily on the upward trend.

These are being reduced by the education of the masses. You as individuals and as organizations, can do much by seeing that in your clubs, your parent-teachers organizations, etc., health talks are only given by those competent to talk on medical subjects and that information, not misinformation, is given. Not by a disciple of one who claimed there was no such thing as pain or disease and no need for drugs but who personally took morphine daily for years before she died. Not by one who says that it is not necessary to make a diagnosis of diphtheria but that he cures it by adjusting the spine. Not by one who condemns the use of drugs and yet treats

appendicitis by a series of manipulations and gives a dose of castor oil or a handful of pills, even though it has been proven that in appendicitis, absolute rest of the gastro-intestinal tract and the entire body are essential to prevent perforation and peritonitis if an immediate operation is not performed. You can do this by preventing the cultists and the quacks from appearing on the programs. By using the same methods they use, quietly throwing the monkey wrench in the machinery of their programs. Not by racketeering but by diplomacy.

There are many other things you can do. One of the big and essential problems of medical organization is the attendance of the individual physician at the medical meetings, especially the county society. When the doctor comes home tired and worn out after a strenuous day it only takes a very little persuasion and influence to change his plans and get him to go or stay. No physician today can keep abreast with medical times without the association and cooperation of his fellow practitioners. You do not want to ever look upon your husband as either a has-been or has-never-been. Encourage him to attend and take part in the meetings. It has been suggested and you may find it wise to have your meetings of the auxiliary at the same time the medical society meets and occasionally after they adjourn if their meetings are not too interesting and prolonged too late to have a short social combined meeting. In this way you may remove the inducements for him to stay home and increase his desire to attend the medical meetings.

These suggestions you can take for what they are worth. You know more about the great part you have to play in the happy and glorious calling in leading the community and the world to health, happiness, and longevity than does the speaker. When I look upon the faces before me I am sure that that great altruistic profession of medicine will be advanced more rapidly in the future by your organizations and that Kansas will stand in the fore in the wonderful part played by the Woman's Auxiliary of the American Medical Association.

Late Manifestations of Syphilis of the Brain and Spinal Cord

HOWARD C. CURTIS, M.D., Wichita

Read before the Sedgwick County Medical Society, May 21, 1929.

In discussing late syphilis I will address myself chiefly to parenchymatous, neuro-syphilis and meningo vascular neuro-syphilis, as found in general paralysis and tabes dorsalis.

About 20 per cent of all the inmates of our state hospitals are there as the result of syphilis.

Paresis forms by far the greatest per cent of the essentially syphilitic mental disorders. This disease is characterized chiefly by progressive enfeeblement of the mind, together with a progressive general paralysis of the whole body. It is essentially a cortical disease but its symptomatology is frequently modified by spinal complications. About four to seven per cent of all syphilitics develop paresis. Males are affected two to five times as frequently as females. Paresis usually develops from five to twenty years following the initial lesion, depending upon the age of the individual and probably upon the treatment. Statistics show that paresis is on the increase. It also shows business men and professional men as the most frequent offenders or to be overcome by the disease more often than other individuals. The disease is rare in the childbearing period of women. It is a very insidious disease in its onset and often mistaken for some of the psychoneuroses in the early stages.

Disregarding all textbooks and reviewing our own records, we find at this time we have seventy paretics with the following history:

Sixty patients gave a history of an initial lesion before 1918 with treatment with salvarsan, showing thirty to forty injections and no treatment since. Five patients had a history of never having an initial lesion and not knowing about any onset. In this group of cases paresis developed in sixty cases from seven to twelve years after the initial lesion and five developed it eight years from the initial lesion and in the other five the onset was unknown.

Several theories have been advanced

why every seventh patient would be a paretic or develop paresis. The theory of different strains of the syphilitic germ has been advanced but this has not been definitely proven.

Another theory is that some people are more resistant than others and another that it only develops where we have a defective cortical organization and the infection renders the process more acute and rapid.

Improper and insufficient treatment in the early stages seems to be a very plausible reason for paresis, yet, we have seen several patients who gave a history of a lesion several years previous, which was thought to be insignificant and upon taking a blood test would find a positive Wassermann and the individual did not develop paresis or tabes.

THE DIAGNOSIS OF PARESIS

The diagnosis of paresis offers no difficulty in the well marked case, especially if we are careful to get a blood and spinal fluid examination as we should do in all neurological cases. The disease is one of the most insidious forms of insanity as regards its gradual onset. Very often in the early stages it is mistaken for some one of the psychoneuroses. Among the early symptoms may be mentioned headache, sleeplessness, irritability of mood, loss of appetite, general malaise, gastric disturbances, depressions and oculomotor and tendon disturbances, pupillary changes and Argyll Robertson pupils. Among the early mental symptoms are gradual change of character, progressive failing mental and physical powers, failure to apply himself to his work, easy to become fatigued, memory changes or loss of memory, forgets the details of business and becomes less careful of his personal appearance, errors in writing and spelling, becomes confused, forgets his way about, becomes extravagant and indulges in alcoholic and sexual excesses and develops a stumbling, stuttering speech, finally becoming untidy in his habits and destructive, noisy and unmanageable.

Tabes is a chronic, progressive disease of the nervous system; occurs rather late in a small percentage of persons afflict-

ed with syphilis. There is a degeneration of the neurons and a degeneration of the posterior columns of the spinal cord. The pathological process further seems to attack the cranial nerves, especially the optic and those supplying the ocular muscles.

Pain is almost always an outstanding symptom of tabes. It may set in early. The pain is described as sharp, boring, shooting, lightning like, lancinating or compressionlike (girdle pains) often described as rheumatic or neuritis pains. The site of the pain always depends upon the roots involved. Lumbo-sacral roots produce a pain or pains in the legs. The lower cervical region gives pain along the arms. Lower dorsal region produces pain in the abdomen. These pains are often mistaken and the patient operated upon for appendicitis or gall bladder diseases. Pains are usually worse at night and sometimes become very troublesome, especially the gastric pains or gastric crises. A well marked case of tabes offers but little difficulty in diagnosis but a large percentage of cases that I have observed have been diagnosed early as muscular rheumatism, articular rheumatism, sciatic neuritis, multiple neuritis, etc.

In enumerating some of the signs and symptoms we expect to find a history of syphilis, but this is not always present and a good many patients deny any knowledge of the disease. Some of the symptoms briefly are disturbance of deep sensibility. Early impairment of position and vibratory sensation is always present.

There is ataxic gait, an uncertainty in walking, and there is a flinging or flopping of the legs and feet, also Romberg sign or swaying with eyes closed.

Loss of knee kicks and ankle jerks occurs in practically every case. The abdominal reflexes are usually hyperactive. Pupillary disturbance or Westphal's sign is usually present and we frequently encounter an Argyle Robertson pupil which comes on early in the disease. This type of pupil is found in parenchymatous neurosyphilis. A dilated, fixed pupil which reacts neither to light nor accommodation is sometimes seen late in tabes

and in meningo-vascular neurosyphilis. Optic atrophy may occur at any time during the course of the disease and sometimes is the only sign for some time. Incontinence of feces and urine also is frequently encountered in this disease. A Babinski sign is never seen in tabes unless the pyramidal tract is involved. Mental symptoms are not usually marked in this disease, except as we would be apt to find in any debilitated condition. The blood Wassermann is usually positive in forty to sixty per cent of cases. The spinal fluid is usually positive in large quantities of the dilution. Globulin is usually positive and the cell count increased.

TREATMENT OF PARESIS AND TABES

Among modern antisyphilitic measures the use of the so-called fever therapy and tryparsamid are unquestionably recent outstanding advances in the treatment of neurosyphilis. From the time of Hippocrates to the present time physicians have been impressed with the observation that fever acted favorably on the psychoses.

Wagner Jauregg of Vienna experimented from 1887 to 1917 with fever inducing diseases and inoculations as erysipelas, staphylococci, typhus and typhoid vaccines, tuberculin and malaria. He adopted malaria because it could be artificially produced, was not too dangerous to the patient and could be terminated by quinine.

Investigators differ as to the effect of malaria on paresis, although many theories have been advanced, they may all be summed up for practical purposes under two heads:

1. Those dealing with the thermal action on the spirochete.
2. Those dealing with the action of the defense mechanism of the individual on the spirochete and its toxins.

Schamberg and Greenbaum have shown that injecting spirochetes into one testicle of a rabbit and malarial blood into the other did not prevent syphilis from developing. They then inoculated rabbits with syphilis and then four days later subjected them to eleven daily hot baths, (temperature 113 degrees F.) Not one of these rabbits developed syphilis.

The thermal death point of spirochetes is 106 degrees F. for six hours. It is not unusual for malaria to produce a temperature of 106 for six hours. Whether or not rabbit syphilis can be compared to human syphilis I do not know.

Tryparsamid was developed by the Rockefeller Institute in 1915. Lorenz and his collaborators published their original investigations regarding the use of this drug in neurosyphilis in 1923 and since then numerous articles on tryparsamid therapy have appeared.

The therapeutic action of tryparsamid is as follows:

1. It reinforces the natural process of resistance.
2. It possesses a moderate degree of spirocheticidal action.
3. It has an unusual degree of penetrability.
4. It is comparatively free from toxic effects.

The treatment of paresis is yet in the experimental stage. No definite cure has been found but with our present knowledge and advancement we have been able to secure a longer and more lasting remission now than formerly.

The malarial treatment has received more notoriety and attention than anything else lately, good results and good reports have been rendered, yet that is only an experiment up to date and the periodic rise of temperature is supposed to be the beneficial thing in this mode of treatment.

A review of the literature will reveal that the use of tryparsamid has its untoward effects, such as visual disturbances, jaundice and dermatitis which complications may be easily controlled by stopping the use of the drug. One should examine his patient's eyes before he begins and during the course of treatment when using this drug. It is the most generally recognized drug we have today for the treatment of paresis or tabes.

REPORT OF CASES

We have five private patients with paresis at this time under observation and treatment who have received tryparsamid and have had unusually good remissions and are all five working and

making a living. Three of these have been working three years and two have been working four years.

On the other hand I desire to report two cases who offered difficulty in diagnosis and show you the brains of these with the report of the pathologist.

Case No. 1. Young white man age 32. Family history is negative. Man confined to bed in Hatcher Hospital, Wellington. He was unable to give any reliable history.

(History from mother and brother.) Usual childhood diseases. In good health until two years ago. Had flu but apparently recovered. Not worked steady since that time. Gradually lost weight and had complained of stomach and headaches; continued to get worse until he entered the Hatcher Hospital, January 20, 1929. Examination revealed a white male, age 32, poorly nourished and developed. He was quiet and spoke only when spoken to. Complained of severe headache in occipital region. He was unable to stand on his feet. Pupils were unequal and slightly irregular. Reacted slowly to light and accommodation. Fundi were negative. Speech thick. Complained of neck when rotating head. No true Kernigs. There was some spasticity of legs. Deep reflexes are diminished. No Oppenheim, Gordon or Babinski. Had partial incontinence of feces and urine. Temp. 101°; resp. 24; pulse 100. Mentally he showed some confusion. Talk was incoherent and irrelevant. Was disoriented. Urinalysis showed a trace of albumin. Blood Wassermann was negative. Spinal fluid Wassermann negative. Globulin positive; cell count 130. No gold curve run.

Wechler, (Professor of neurology at Columbia University) says "with a temperature around 101° and with signs of meningeal irritation, insomnia, drowsiness and stupor, radicular pains, abnormal involuntary movements of bladder and bowels, slight pupillary disturbance with slight spasticity of legs and slow speech and slow movements, one is justified in making a diagnosis of encephalitis."

We were unable to differentiate between encephalitis and neurosyphilis dur-

ing the patient's illness. Patient died February 3, 1929. Autopsy showed small hemorrhage in substantia nigri and a syphilitic gumma in gyrus hippocampi.

Case No. 2. Elderly man, age 70. History of having had a stroke two days previous. Was brought to St. Francis Hospital in a stuporous state. Disoriented. B.P. 140/60. Arteries hardened. Urine showed a trace of albumin. Blood Wassermann was two plus. No spinal fluid permitted. Slightly unequal pupils. Speech was slow, stuttering type. Spasticity of left side of body. Tongue deviated to left, had incontinence of feces and urine, was confused and talked incoherently and rambling. Admitted to hospital September 10, and died October 12. A diagnosis of cerebral hemorrhage was made before death. The pathologist reports that the brain resembles one of general paralysis; but it is rather rare to have paresis in a man of that age and too, a small hemorrhage probably could have been absorbed in a month of time.

—R—

Constipation

FREDERICK D. SMITH, M.D., LaCrosse
Read before the Rush Ness County Medical Society, October 2, 1929.

We have chosen a subject which is perhaps the oldest and most universal of all of the afflictions of the civilized race—namely that which is commonly called constipation. Constipation undoubtedly paves the way for more human discomfort and ill health than any other single derangement of bodily function. It is possibly one of the most complicated diseases within the sphere of modern medicine. Still one wonders why so natural a bodily function can be so easily and frequently deranged, and there are few subjects of so much importance to the modern internist and general practitioner as that of constipation. Patients suffering from this trouble drift to him after having gone the rounds with all sorts of practitioners, even having fallen into the hands of some all too eager surgeon. The problem, therefore, as it presents itself to the medical profession is that "the cathartic habit will not cure constipation," but that common sense measures, and rational treatment along normal physiological lines will; and we

therefore offer or endeavor to offer some few suggestions along this line, and if we are able to succeed in our efforts, we have no apology to offer for having dealt with a time worn and rehashed subject.

DEFINITION

Many definitions have been offered, but in a general sense constipation may be defined as that resulting condition following any deviation from the normal in any of the functions, or in the structure of the intestinal tract, which retards or produces difficult or deficient evacuation of the waste products of elimination.

WHAT CONSTITUTES THIS DELAY?

At the cecum in 4-6 hours.

At the hepatic flexure in 6-8 hours.

At the splenic flexure in 9-19 hours.

At the sigmoid in 12-16 hours.

At the rectosigmoid junction in 18-24 hours.

Complete evacuation of entire meal 24-33 hours.

These figures are taken from *x-ray* and fluoroscopic observations (Herty, Bayliss).

The physiology of defecation should be understood. The rectosigmoid junction is a point in the intestinal canal similar to the cardia, pylorus, and the ileocecal valve. It has a ring of circular muscle fibers and a valve like projection into the lumen. It has a special set of nerve fibers. This ring of muscle fibers acts as a valve and the feces do not enter into the rectum except just prior to defecation, normally it is empty. The valve has special nerve fibers, in fact it has two sets, one voluntary, and one involuntary. The peristaltic waves forcing the contents down to this valve set up an impulse or desire to defecate, if delayed too long however, a reverse peristalsis takes place and the patient is unable to have a bowel movement no matter how hard he may try. The act of defecation usually takes place in two stages, and in a complete evacuation the colon, at least from the splenic flexure downward, should be entirely emptied.

ETIOLOGY

In considering the etiology of the various phases of constipation that clinical study has shown us to have produced

bowel insufficiency, we have adopted two classes, first the one where the patient himself is directly responsible, and second those cases offering actual or indirect pathology.

In the first class of cases there are many causes. Among these are the following, and for want of time we are unable to discuss them. Habit and faulty toilet facilities. Sedentary occupations and indoor habits. Dietary errors. Improper use of laxatives and cathartics.

In this class of cases excellent results can be obtained under proper management by the physician, and with proper co-operation of the patient.

In the second class of cases, too long for discussion here, the causes are as follows: Abnormal, anatomical and embryological defects. Hirschsprungs, ptosis, megacolon, etc. Acquired abnormal conditions: Appendicitis, chloolithiasis, hemorrhoids, fissure, fistulae, inflammations of colon, etc. Paresis and brain and cord conditions. Internal glandular conditions. Fevers, and acute conditions.

SYMPTOMATOLOGY

The usual mode of onset in these cases of course is gradual, and they by no means present a typical picture, as one might expect; nor do they always show a rapid improvement in digestive disorders when they have gained regular bowel movement. The picture one usually finds is that of a rather vague and somewhat obscure syndrome, which is quantitative rather than qualitative. That is, there are no outstanding symptoms.

These things we have noted to be quite typical, however: Fatigue, which is manifested by a marked disproportion between the mental desire for accomplishment and the actual physical inability to perform the desire. Characteristic gastric and intestinal symptoms, gas, nausea, sensation of fullness in the abdomen. Loss of appetite and intolerance for certain food. Precordial pain or so called gas pain, which is described as a heaviness, and of a shifting nature. Often these patients describe a gnawing sensation, a sour stomach, and lead us to think of a gastric or duodenal ulcer.

To study a case of constipation certain

conditions and certain procedures, we have found especially advantageous: A careful history. A detailed account of habits as to meals, the taking of cathartics, enema, etc. By giving three charcoal lozenges with each meal, at least 8 hours after defecation. If blackened stool is not passed inside of 24 to 33 hours, then patient is considered constipated. *x*-Ray study of barium meals. By examination of the rectum, rectosigmoid junction, with sigmoidoscope.

TREATMENT

Now in regard to treatment which we have found very successful in our study of several hundred cases, and where we believe we actually obtained results for our patients, the following means have been used.

1. Breaking up of old habits, such as taking cathartics, and the disregard of call to the toilet.

2. The establishment of regular habits, and I insist on this point.

3. Diet and regularity of meals, and here I can go on indefinitely and I will later pass around to you a form I have adopted, and which I give to my patients and ask them to read it, telling them I consider it just as important as the taking of medicine.

4. Massage of abdomen.

5. General exercise.

6. Local surgical treatment of hemorrhoids, fissures, and also the use of high injections of olive or cotton seed oil, where I find inflammatory conditions of the rectum, lower colon around the rectosigmoid junction.

7. Medication. No cathartics are given or permitted, except we use liquid petroleum and agar-agar. The preparation we have found best after the use of practically all kinds is Petrolagar. We give large quantities of this and then as an easy soft stool develops we gradually withdraw the amount until we have stopped it altogether. Next we attempt to destroy the bacteria in the bowel which produce fermentation, and autointoxication, and the drug we have found best is hexylresorcinol. We give from a dram to a dram and a half of this in a good digestive mixture, along with alkalinizing drugs. We find that we get better results

where we can keep the patient alkalinized. This drug is non-toxic up to one-half ounce in four (4) of mixture.

8. Our final step is to give the patient a culture of bacillus acidophilus, or have him take yeast, after we have first cleared up as much as possible his fermentative trouble.

CONCLUSIONS

Constipation is one of our most common diseases or disorders.

We find it a real disease entity instead of a symptom as it has generally heretofore been treated.

That it predisposes to other conditions and while we never knew of a case being fatal, its predisposition to other fatal diseases makes its treatment well worth while.

That our patients are very grateful to us for our aid, and it will help them where others have failed.

It can be cured.

—————R—————

KANSAS UNIVERSITY CLINICS

Acquired Hemolytic Icterus

DONALD R. BLACK, M.D., Kansas City, Mo.

The following case presents some very interesting problems both from a standpoint of diagnosis and therapy.

E. E. M., case No. 2116, white male, age 53, entered the hospital August 5, 1929, complaining of weakness, shortness of breath, bloody urine and anemia. His family history is without interest and he has had no illness in the past worthy of note. He had been in good health until late in 1927. He thought he had been working too hard and simply needed a rest, which he took for a month and felt quite well until after an attack of so-called influenza in March, 1928. He recovered slowly from this attack, became tired, short of breath, and quite weak on even slight exertion. On March 19th he first noticed that his urine was dark, reddish-brown. A doctor was called who thought the urine probably contained broken-down blood. He also noticed that the patient was quite anemic; also, that there was a slight but distinct icterus. There were no urinary symptoms at any time; no renal or ureteral pain, frequency, urgency or burning; and no

chills or fever. He was taken to a hospital and because of his profound anemia was given four blood transfusions. Apparently an increase in the dark coloring matter in the urine was noticed after each transfusion, but his physical condition improved and the urine returned to normal. The lemon-colored icterus seemed to vary in intensity with the dark urine. The patient presented no signs of combined posterolateral cord sclerosis. There were no gastrointestinal symptoms. No diarrhoea. The appetite was always good. No sore tongue or sore mouth. The Wassermann test was negative. Stomach analysis was refused. A provisional diagnosis of pernicious anemia was made and the patient was put on a Murphy-Minot diet, and in the interim between March, 1928, and August, 1929, when he was admitted to the hospital, he had taken 600 ampules of Lilly's liver extract. In addition he was taking dilute hydrochloric acid with his meals.

Our physical examination upon admission revealed an obese male, height 5 feet 8 inches; weight 200 pounds, quite pale in appearance, with distinct lemon tint to sclera. Temperature 98.4. Pulse 74. Blood pressure 170/100. Pupillary reactions normal, fundus normal.

Tonsils imbedded, no free pus. Teeth showed marked marginal pyorrhea and several devitalized teeth with apical infection.

Chest normal. Aorta wide, but no pulsation. Heart moderately enlarged to the left; no murmurs or thrills.

Abdomen revealed no masses. Spleen enlarged three fingers below the costal margin. Liver not enlarged.

Kidneys not palpable or tender.

Neurological examination normal.

x-Ray examination showed the stomach of normal size, shape and position, normal emptying rate (was empty at the 5 hour interval). Smooth duodenal cap. At the 24 hour interval the colon was outlined with quite normal haustral markings.

Urine dark, reddish-brown in color. Specific gravity 1.022. Albumin, sugar and diacetic acid were negative. A strong reaction for bile, urobilin and urobilino-

gen was present. An occasional fine granular cast and pus cell were present. There was a slight reaction to benzidine.

Blood count:

Hemoglobin	45% (Dare)
R. B. C.....	1,856,000
W. B. C.....	6,800
Polymorphonuclears ...	86%
L. Lymphocytes	6
S. Lymphocytes	20
L. Mononuclears	6
Myelocytes	2

Red blood cells normal in size, but irregular as to contour.

Wassermann and Kahn negative.

Phenolsulphonephthalein test, two hours, 55%.

Fragility test: Initial hemolysis .42%, complete hemolysis .34%.

Reticulocytes 20%. Blood platelets 144,000.

Van den Bergh: Positive (indirect reaction.)

Blood chemistry:

N. P. N.	35.8 Mgs.
Uric acid	4.7
Urea Nitrogen	21.48
Creatinine	2.1
Sugar	127.0
Chlorides	478.0
Cholesterol	195.0

Stomach analysis—Ewald:

Free hydrochloric acid	14.9
Total acidity	45.0

The patient was put at rest in bed on a Murphy-Minot diet. Blood was typed for blood transfusion. A probable diagnosis of acquired hemolytic icterus was made. Pernicious anemia was ruled out because of the presence of free hydrochloric acid in the stomach, and lack of gastrointestinal and cord symptoms. Paroxysmal hemoglobinuria was ruled out because of the absence of syphilis and the icterus.

The blood count was not that of a leukemia, nor of a so-called aleukemia lymphoma. There was no history of metallic poisoning.

His blood picture and general condition rapidly improved following four blood transfusions at four day intervals. An interesting point in this connection was that his urine contained large amounts of urobilinogen after transfu-

sions, and was very dark in color. This could be reduced by giving 5 c.c. of calcium chloride intravenously following the transfusions. By September 9th his hemoglobin was 73 per cent, R. B. C. 3,970,000.

A splenectomy was performed by Dr. J. G. Montgomery. The patient made an excellent surgical recovery.

Laboratory report: "Material consists of a spleen which weighs 575 grams, measures 4.5x12x19 cm. The external surface is bluish pink and, excepting for a slight amount of yellowish-white granular material, the surface is relatively smooth. The capsule is not especially thickened. The cut surface is uniformly dark red and somewhat less firm than normal. There are no infarcted areas nor degenerated foci noted grossly.

"Microscopic examination: Sections of the spleen show normal architecture. The Malpighian bodies are very large, there is some congestion but not excessive. There is slight, but definite, eosinophilic infiltration. In the sinuses there is hyperplasia of the endothelial cells and numerous small rounded cells with darkly staining nuclei which occupy the entire cytoplasm; these we believe to be lymphocytes. In addition there is hyperplasia of the large cells of the pulp, splenocytes, some of these are multinucleated. The picture is not that of Hodgkin's, Gaucher's splenic anaemia, or Banti's disease.

"A definite diagnosis cannot be made."

His blood count began to drop about September 16. Hemoglobin 53 per cent, R. B. C. 2,870,000. He was given a transfusion of 500 c.c., which was followed by recurrence of dark urine, but his blood count improved and he was discharged October 12 with hemoglobin 70 per cent, R. B. C. 3,430,000. Reticulocytes 7.5 per cent.

He returned to the office November 19, feeling well, but with a hemoglobin of 55 per cent, R. B. C. 3,030,000, W. B. C. 21,500, polymorphonuclears 21 per cent, large lymphocytes 6 per cent, small lymphocytes 73 per cent. Reticulocytes 6 per cent. We took the peculiar lymphocytosis to be the well-known lymphocytosis following splenectomy. He was

given a single blood transfusion at his home town and returned to the hospital December 17, 1929, with definite icterus, dark urine, weakness, and poor appetite. Hemoglobin 43 per cent, R. B. C. 2,260,000. Reticulocytes 6.9 per cent. Blood chemistry:

N. P. N.....	35.0 Mg.
Uric acid	4.4
Creatinine	2.0
Chlorides	487.0
Sugar	139.0

Calcium chloride 5 c.c. intravenously seemed to control his dark urine. He was given three blood transfusions, each followed by calcium chloride, and he had no appreciable dark urine following any of the transfusions. He left the hospital December 26 with hemoglobin of 74 per cent, R. B. C. 3,740,000. Reticulocytes 7.5 per cent. Cholesterol 214.

Fragility test: Initial hemolysis .44 per cent, complete hemolysis .28 per cent. Volume index 1.5. Basal metabolic rate 19.4 per cent increase.

He was instructed to take calcium lactate grains 5, t. i. d.; to use a high protein diet of the Murphy-Minot type, and to return for observation in a month.

COMMENT

Hemolytic icterus occurs in two forms, acquired and familial. The etiology of both is obscure. The general impression being that the acquired type results from some toxin or infectious process. There is nothing absolutely positive to the histology of the spleen. No cause is suggested for the familial type.

The diagnosis rests upon the anemia, icterus, van den Bergh's test, (indirect reaction) increased fragility of red blood cells, increased reticulocyte count, splenomegaly, and in certain cases the presence of dark urine containing urobilinogen. Treatment is splenectomy.

In the familial type splenectomy is almost always successful and usually results in a complete cure. In the acquired type, on the other hand, splenectomy is frequently followed by very slow improvement, and in certain cases little or no improvement, and the patient has to resort to frequent blood transfusions. In these refractory cases the thoracic, ab-

dominal and mesenteric lymph nodes are supposed to take up the blood destroying properties of the diseased spleen.

R

TUBERCULOSIS ABSTRACTS

Nature's medicine chest contains no more useful or important remedy than rest. In the treatment of tuberculosis, we use numerous devices to immobilize the lung itself, but still rely chiefly on general body rest. Complete rest, however, is not achieved merely by commanding the patient to be quiet or by putting him to bed. Tenseness of mind, nerves and muscles prevents most of us from resigning ourselves to a vegetable inactivity and so deriving the maximum benefit from rest. Edmund Jacobson, of the University of Chicago, has made a scientific study of rest, on the basis of which he has developed a technique of securing complete relaxation. The following excerpts are derived from his book, "Progressive Relaxation," published by the University of Chicago Press.

NEURO-MUSCULAR HYPERTENSION AND RELAXATION

Neuro-muscular hypertension is due to a reflex excitation or irritability. In disorders involving structural nerve lesions, such as hemiplegia and diplegia, this tenseness is easily discernible. Similar, but less obvious, symptoms of hypertension may be observed also in persons without nerve trauma and in those not ordinarily branded as "nervous, restless or irritable."

The symptoms of hypertension have their origin in a variety of conditions, including prolonged pain or distress, emotional disturbances, such as fright, loss, or bereavement, bacterial infections, trauma of all kinds, chronic nervous strains, and possibly congenital defects of the nervous system. The author distinguishes sharply between hypertension and neurasthenia (a fatigue phenomenon) and says that, like arterial hypertension, the term represents not a diagnosis but merely a systemic condition and does not deny possible underlying pathology.

OVERCOMING RESIDUAL TENSION

When an unpracticed person is instructed to relax, tests generally reveal a

"residual tension" which appears to be a fine tonic contraction along with slight movements or reflexes. The respiration is slightly irregular, the pulse may be moderately increased (as compared with the pulse in complete relaxation), there are local reflex activities such as frowning, movement of the eyeballs, restless shiftings of head, limb or finger; the knee jerks can be easily elicited, and a sudden, unexpected noise causes the patient to start. Doing away with this residual tension, slight as it may be, is what is needed to derive the full benefits of relaxation. This is accomplished only as the result of practice. When relaxation is complete, the individual lies quiet-



The patient is taught to localize muscular contractions; in this case, the orbicularis oculi.
—Courtesy of U. of C. Press.

ly with flaccid limbs, there is no trace of stiffness, no reflex swallowing, movement of the eyelids, nervous movements or tremor, while mental and emotional activity dwindles and disappears for brief periods. The condition is pleasant and restful. The sleep which often results is not a hypnoidal or trance state but a perfectly natural sleep.

TEACHING THE PATIENT TO RELAX

Learning to relax is a matter of nervous re-education. The patient is taught first how to identify and to localize tensions. Once he has cultivated a muscle-sense (joint and tendon sensations may be disregarded), he easily learns to "relax his tensions away." Practice begins with the patient lying comfortably on his back on a couch. He is told to contract steadily and slowly a single group of muscles, say the flexors of the forearm,

while the upper arm rests limply on the couch. The physician's hand retards the movement slightly so as to intensify the sensation of muscular contraction. The patient observes the muscle "feel," though he does not concern himself with the anatomical details, nor should he palpate his own muscles or watch his own movements, this being the physician's function. As the patient acquires skill, the physician's passive resistance may be omitted. When the experience of localizing a contraction has become thoroughly familiar, the patient becomes aware of what he is *not to do*; he learns to "let go" and discovers that relaxation is simply the negative state of contraction. Practice with a given set of muscles eventually enables him to relax them without effort. Thus, one set of muscles after another is trained, not omitting the facial muscles and the eyes, until the patient learns to relax the entire body at will.

SUGGESTION NOT A FACTOR

At no time is the instruction given to stop thinking or to make the mind a blank. The fact that one may go to sleep while practicing muscular relaxation harmonizes with the laboratory evidence that mental and emotional activity always involves a motor element and that by decreasing this motor element such activity is apparently diminished. The author insists emphatically that the method of progressive relaxation is not a form of "suggestion" or hypnosis; in fact, in his training of patients, he scrupulously avoids suggesting effects that may follow and simply directs his patient what to do in the same manner as when prescribing diet or exercise. Voluntary relaxation of an undesired mental activity differs in mechanism from so-called "suppression" or "repression," which are commonly attended with effort, which is the reverse of relaxation. In progressive relaxation, the subject exercises the "will" to relax, and success is dependent on habit formation.

EMOTIONAL ACTIVITY INVOLVES MOTOR ELEMENT

Mental and emotional activity always involves a motor element. On the basis of his experiments with intelligent sub-

jects, the author concludes that a tenseness of muscles of the ocular region accompanies visual imagery. With complete ocular relaxation, the image disappears. Auditory imagery is similarly associated with a sense of tenseness, felt perhaps in the auditory apparatus but characteristically in the ocular muscles. When the subject succeeds in maintaining the imageless state for a relatively prolonged time, natural sleep ensues. "Nervous individuals tend to rehearse their griefs, difficulties and problems,



Relaxation with open eyelids gives the patient a particularly vacuous appearance.
—Courtesy U. of C. Press.

considering incessantly and perhaps incoordinately what to do about them; and this emotional reflection evidently is a fountainhead of nervous hypertension, which relaxation mechanically shuts off."

THERAPEUTIC APPLICATION

Dr. Jacobson believes this method of obtaining rest has possibilities of widespread therapeutic application. In some disorders, it may be used as the principal or only method of treatment, while in others it may be regarded as an adjunct to other medical or surgical treatment. An analysis of the 81 cases treated under his direction by relaxation alone reveals that most of them were conditions dependent upon or related to neuroses or psychoses. The list of pathologic conditions treated includes nervous hypertension, chronic insomnia, convulsive tic, esophageal spasm, Graves' disease, mucous colitis, spastic paresis, stuttering, stammering, and others. In this series of 81 cases, he reports objective results

in terms of improvement as follows: slight—13; marked—28; very marked—36; doubtful—4. Equally good are the results of cases in which supplementary dietetic or surgical treatment was indicated and used.

IS THE METHOD APPLICABLE TO TUBERCULOSIS

Little mention is made in the book of tuberculosis, perhaps for the reason that the author's research has been concerned primarily with the treatment of conditions more definitely dependent upon, or associated with, neuro-muscular tensions. Since, however, rest is the pillar on which the treatment of this disease depends, it would seem worth while to investigate the possibilities of this method for tuberculous patients. How common it is to see patients "taking the cure" harassed by worries of home, depressed by prospects of the future, fidgety for want of something to occupy the mind and hands, restless from long waiting, and impatient to have done with the tedium of institutional regimen. Merely "guarding the bed," as the Germans say, is one way of enforcing a degree of rest, but it is not of the kind from which maximum benefit is derived.

Plastic Surgery of Female Bladder and Urethra

Henry P. Newman, San Diego, Calif. (J.A.M.A., Feb. 8, 1930), says that the restoration of the female bladder and urethra following tears, hernial conditions or long standing disturbances from enfeebled support not only is difficult and exacting in details but too often baffles the stereotyped methods of operative technic. The various conditions and types to be met are: (a) A complete or partial prolapse or hernia downward through a torn vaginal orifice or pelvic floor. (b) The same bladder and urethral conditions but with the pelvic floor intact, the main contributing factor being the want of proper muscular tonicity of the parts. (c) Complete or partial destruction of the entire lower portion of the bladder and urethra, with consequent loss of bladder and urethral control. He reports three illustrative cases and describes the operation he has devised.

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THE ANNUAL MEETING

The seventy-second annual session of the Kansas Medical Society will be held in Topeka, May 6, 7 and 8. The committee have secured the third floor of the Hotel Jayhawk which includes a commodious convention hall and numerous other rooms which will be used for other meeting places and for commercial exhibits.

The second day of the session, Wednesday, May 7, will be guest day and on the program of that day will appear all of the guest speakers: Fishbein, Bloodgood, Dandy, Nilsson and Kanavel. That list ought to be sufficient assurance that no member can afford to miss this meeting. And then there will be a lot of very interesting papers by our own members on Tuesday and Thursday. There are some exceptionally capable men in our Society and, although the program is not yet complete, there are enough titles received to make certain a very attractive three-day session.

Plans are being made for a public meeting with Dr. Fishbein as the speaker. This will be held on Wednesday evening. After the public meeting a buffet lunch-

eon and entertainment will be given at the Hotel Jayhawk.

The program will be published in full in the April number of the Journal.

THE LAWS WE HAVE

It is now almost thirty years since the Medical Practice Act was adopted by the legislature of this State. There have been a considerable number of decisions by the Supreme Court as to the validity of its various sections and in the main it has withstood all of these tests. In the section which defines who are practitioners of medicine there are still some points to be authoritatively determined. One point that has been made to bear considerable weight in determining violations of the law is whether a fee is charged or not. One of the exceptions reads: "Nor shall anything in this act apply to the administration of domestic remedies, nor to prohibit gratuitous services." There is a decision that the law does apply to the administration of domestic remedies when a fee is charged, but the question now arises as to what constitutes a fee.

The exemption of gratuitous services opens a wide field for the practice of medicine by those unqualified. And it also raises some questions of interpretation. For instance, it is reported that school nurses not only make diagnoses but administer drugs and vaccinate pupils for smallpox. They do not receive a fee from the pupils for these services but neither can it be classed as gratuitous service since they are under salaries. In a good many hospitals anesthetics are administered by trained nurses, and some of these are quite expert anesthetists. It has not been decided if administering an anesthetic comes within the acts specified as practicing medicine or surgery, but if so does the fact that the hospital charges a fee for the anesthetic, bring it

within the provision of the law. It is not gratuitous service nor does the nurse do it for a fee. If the school nurse shall be considered as giving gratuitous service, then the employed medical attendants of industrial hospitals, and physicians and surgeons of insurance hospitals, are also exempt for the same reason.

The medical practice act provides that when a license is granted it shall be recorded in the office of the county clerk of the county in which the applicant resides, except non-residents shall record the license in the county in which they expect to practice.

The osteopathic law provides that when a license is granted it shall be recorded in the office of the county clerk of the county in which the licentiate expects to practice.

The chiropractic law provides that when a license is granted it shall be recorded in the office of the register of deeds of the county in which he resides and shall likewise have it recorded in the counties to which he shall subsequently remove for the purpose of practicing chiropractic.

The regulars and osteopaths register in the office of the county clerk, the chiropractors in the office of the register of deeds. The regulars and chiropractors register in the counties in which they reside, the osteopaths in the counties in which they expect to practice. It is implied that regulars and osteopaths must re-register whenever they change locations—it is definitely provided that the chiropractor shall do so.

Presumably the recording of these certificates was expected to serve some useful purpose. All three of the laws require that the records shall be kept in a book for the purpose and shall be open to public inspection. The medical practice act, the first of these laws to be adopted, provides that in December of

each year the county clerk shall furnish the secretary of the board of examiners "a list of all certificates recorded and in force, and also a list of all certificates which have been revoked or the owners of which have removed from the county or died during the year." From this one may conclude that the board of examiners would keep a directory of physicians licensed to practice in the state and the information necessary to keep it up to date would be supplied by the county clerks. However, no provision was made for recording removals or deaths with the county clerks and it is practically impossible for them to comply with this provision of the law. It was probably for that reason that neither the osteopathic law or the chiropractic law required annual reports of licenses recorded to be made. It was evidently in the minds of those who framed the medical practice act that provision should be made by which the practitioners in the state could be checked up. The board of examiners seemed at the time to be the agent upon whom the duty should devolve, but subsequent developments have demonstrated the error of this view.

It is obvious that there should be some where a directory of all registered practitioners of every kind in the state and that this directory should be kept up to date. It is also obvious that such a directory can most appropriately be kept by the state department of health since its proper function necessitates keeping in touch with the practitioners of the State.

It is suggested that these three laws be amended so as to provide that each certificate from the boards of examiners, together with the post office address of the holder thereof, shall be recorded in the office of the Secretary of the State Board of Health, and that if and when any such certificate holder removes to

another location, before beginning to practice, he shall notify the Secretary of State Board of Health of his new address.

This would at least afford a means by which to determine if there are unlicensed practitioners in the State. There are now in several counties in the state those who are practicing medicine in violation of the law. The use of physiotherapy in the treatment of the sick is practicing medicine. Any one who treats sick people with any form of physiotherapy, for a fee, who is not licensed under one of the laws is subject to arrest and fine for violation of the medical practice act. So far as known there has been no occasion for the Supreme Court to decide whether an osteopath has a legal right to practice medicine, although most all of them are doing so. The chiropractic law provides that those licensed under it shall not prescribe or administer drugs nor do major surgery.

When it seems time to begin to enforce the laws regulating the practice of the healing art now on the statute books it might be well to have determined some of the points in question. It would cost something to carry a few test cases through the supreme court but it might prove to be a good investment. Since Kansas became a state our society has been more or less constantly before the legislature with various proposals for legislative regulation of the healing art. The enactment of the medical practice act only stimulated us to further effort, either toward its improvement or in its protection. And yet no consistent effort to enforce this law has so far been made. As might reasonably be expected the largest number of complaints received from our members over the state do not concern the cults but are in regard to violations of our own law.

With the constant changes and the rapid progress in scientific medicine, preparing laws for the regulation of the healing art for future years is a hazardous undertaking. Forty-five years ago the law providing for the state board of health was adopted. In the section providing for the creation of the board will be found the following: "but in no case shall the governor appoint a majority of the physicians that shall constitute such board of health from any one school of medical practice, nor shall said board at any time be composed of persons a majority of whom shall be of the same school of medicine."

The law creating the board of registration and examination, passed by the legislature fifteen years later also provides, in the composition of the board, as follows: "representation to be given to the different schools of practice as nearly as possible in proportion to their numerical strength in this state, but no one school to have a majority of the whole board."

It is practically impossible for the governor to comply with either of these laws under the present conditions, but by giving a very liberal interpretation to the term "school of medical practice" and "school of practice" he has succeeded in maintaining the high character of the board. No one has raised the question as to the legal standing of these appointees and it is doubtful if any one will, but these laws should be amended to conform to present circumstances at least.

What is or rather what was allopathy? The dictionary says: "An erroneous designation of the regular system of medicine and surgery. The term really means the curing of diseased action by inducing a different kind of action in the body." The title is said to have been conferred

by the homeopaths but was never accepted by the American Medical Association which, when it seemed necessary to assume a distinctive designation, adopted the name "Regular," for it was always against the policy of these men to restrict themselves to any exclusive system of practice, therefore they naturally resented a classification which implied such a narrow conception of the science of medicine. Laymen frequently used the terms "allopath" and "old school" when they wished to designate regular practitioners. Homeopath and eclectic were terms adopted and authorized by those respective schools, but there is no authority or justification for reference to an "allopathic school" for it never existed.

If an ordinary English speaking individual, with a fair common school education, reads section 65-1005 of the Revised Statutes of Kansas he will be likely to think that "persons deemed practitioners" are so well described that even lawyers ought to have no difficulty in recognizing them. But then a statement that seems clear and definite to one of us is just a maze of questions to a good lawyer. For instance, section 5 of the Bill of Rights in our State Constitution says: "The right of trial by jury shall be inviolate." That seems simple and plain but there have already been thirty-seven supreme court decisions to determine what it really does mean. So what chance is there for the clause mentioned above, with twenty times as many words in it, to really mean what we think it does or what it was intended to mean.

QUESTIONS IN ETHICS

Although some definite and specific rules have been laid down by which to measure the ethics of our conduct toward each other and toward the public, a dif-

ferential diagnosis between ethical conduct and unethical conduct cannot always be made by those rules. The time, the place, and the circumstances may alter the complexion of a case in question. There are practices of course that are unethical at any time, in any place and under any circumstances, but there are other practices about which a decision is not so readily made. In many such instances the established custom of the physicians in the locality is the determining factor. Particularly is this true in regard to professional cards in the local newspaper, and in regard to the matter of fees to be charged. It cannot be regarded as unethical for a doctor to charge higher fees for his services than is customary, on the other hand it is unethical for a doctor to charge less than the customary fees to those who are able to pay. It may be stated in general terms that any practice which gives one an unfair advantage over others in the community is unethical.

It is unethical to pay commissions for business at any time, in any place or under any circumstances, but in most every community there are situations that require very thoughtful consideration of the circumstances before a decision in the matter of ethics can be made. In most every community there are groups of families more or less intimately connected by blood or marriage, in the main thrifty and well to do but usually there will be one or two of the families that can never make a living let alone pay a doctor.

Dr. Brown is the family physician for all of them but if he refuses his services to the poor ones the well to do families will soon desert him. Some times the services given to the poor relatives far exceed those to the ones that pay. Dr. Jones and Dr. Smith probably feel that if Brown attends the good pay families

he ought to take care of the poor ones, and no one loses but Brown. Are his services to these poor families to be regarded as a commission for the business of the other relatives? It can readily be seen that possible variations of the arrangement or makeup of such a group of families might make this system very profitable to Dr. Brown. Since there are usually several groups of families like that in every community, Jones and Smith are probably engaged in the same kind of practice. Strictly interpreted the doctor pays a commission equivalent to the value of the services he renders the poor family, for the remunerative business he does for the other families, but it would be hazardous to pronounce one case ethical and another unethical.

It is generally conceded that a doctor's legitimate advertising medium is his work and since his work can only be demonstrated on his patients one might say that his satisfied patients are his legitimate advertising agents. Every doctor has among his clientele some honest and appreciative but impecunious patients. He gives his services willingly and freely but in their gratitude they attempt to pay their obligation in praise of his ability to their friends. The zeal of these self appointed advertising agents is frequently embarrassing but profitable to the doctor. Strictly interpreted he involuntarily pays the value of the services rendered as commission for the new business their influence brings him, but few if any of us would say that was unethical practice.

Suppose a little variation in the circumstances, with the family receiving the services amply able to pay for them, quite as appreciative as the poor family and quite as active in advertising the ability of the doctor, with results which naturally make the doctor disinclined to urge payment on his bill. Until he col-

lects that bill, however, he is under suspicion of paying a commission equivalent to the value of the services rendered. Tell him so and he will be highly insulted. Try to convince yourself that you are paying commissions to your best friends who take every occasion to compliment your ability and to whom you are indebted for many good patients, but whom you do not inconvenience in the matter of their indebtedness to you.

Someone, at some time in the distant past, promulgated a guiding principle for human conduct that has been rewritten in many forms and in many languages and in it lies the essence of all the specific regulations of our principles of ethics. "And as ye would that men should do to you, do ye also to them likewise."

RELATIONS OF HOSPITALS TO TRAINING SCHOOLS

It is not so very long ago that there were only three or four hospitals in Kansas, and incidentally in these a few nurses were trained for general service. The course of instruction was not very elaborate or comprehensive but it was eminently practical and the nurses that were given certificates were regarded as efficient. They knew how to do everything a nurse was expected to do in those days. There are still a good many of them on regular duty and they are generally regarded as being quite as efficient as graduates of later periods.

In those days training schools were established in connection with hospitals because they afforded cheap service for the patients in the hospital and because the increasing demand for graduate nurses made the training school sufficiently attractive to assure the hospital a constant supply of attendants. But the training school, which at first was but an incident in the operation of a hospital,

has assumed an importance in some instances outranking that of the hospital. The course of instruction of an acceptable training school has been so expanded that with the necessary recitation periods and study periods little time is left for the duties in the hospital. In order to give a fair degree of efficient service to the patients there must be students enough for three or four duty shifts. The number required will depend somewhat upon the arrangement of the hospital. However, if in a hospital with an average of seventy-five patients a student body of fifty is unable to render adequate service it is obvious that two students to three patients is too small a proportion. But if ten of the seventy-five patients have special nurses and the regular service to the remaining sixty-five is still inadequate it would indicate that the student body should practically equal the average number of patients.

During the past few years it is a notable fact that a larger per cent of hospital patients request special nurses. Those who were inclined to explain this on the theory that people were becoming more fastidious or more inclined to follow a fashion, may get another viewpoint if they listen to the gossip of patients and their friends. It seems to be the current opinion among these that good service cannot be expected in any of the hospitals without a special nurse. Possibly the regular service is as good as it ever was, possibly they expect better service because they are required to pay more. And this suggestion revives our original theme—the relative importance of the hospital and the training school—for the hospital patients pay for the maintenance of the training school. If they feel that the increased cost of hospital care is largely or in part due to the increased cost of maintaining the training school, and that instead of getting better serv-

ice they are compelled to employ special nurses, it would seem there is some justification for their dissatisfaction. In this connection it would be interesting to know whether the maintenance of a training school is more expensive to the hospital than the employment of a sufficient number of trained nurses would be. Opinions of those associated with hospitals do not agree, nor are they of particular value in the solution of a problem in which definite data could be made available. It is a question that should be answered definitely by every hospital for itself, in fairness to its patrons as well as the hospital organization. The patients should not be required to pay more than good service can be secured for.

Whether now or at some later date the necessity for divorcing hospitals from training schools is inevitable. The effort to place trained nurses on a plane with the professions is bearing rich fruit. The increased educational requirements for admission and the constantly expanding curriculum require greater independence than is consistent with hospital control. Ultimately they must be divorced or the hospital must become entirely subservient to the training school.

In the interests of those who must have hospital care, for the integrity and efficiency of the hospitals, and in concession to the higher ideals of the nurses' organizations, it seems that the time approaches for the establishment of independent endowed schools of nursing and departments in our universities and colleges where such courses of instruction as are necessary to prepare the student for hospital instruction will be given. Having completed the required didactic courses they can enter the hospitals for the practical instruction to which they will then be able to give their undivided attention. The student nurses will be

better instructed than they are now or ever have been and the hospitals will have better service than they have now or ever have had.

PROPOSED AMENDMENT

The following proposed amendment to the Constitution was presented to the Council at its annual meeting in January and was approved. Resolved that Section 1 of Article X of the Constitution be amended to read as follows:

Article X

Section 1. The term of office of the President shall be for one year and shall begin on the first day of January following his election. The term of office of the President-elect shall be from the date of his election until the first day of January following. The terms of office of the Vice President and the Treasurer shall be for one year. The terms of office of the Secretary and of the Councillors shall be for three years. All of these officers shall serve until their successors are elected and installed.

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Standing Committees

The following standing committees have been appointed by President Dr. E. S. Edgerton:

EXECUTIVE COMMITTEE OF COUNCIL

Dr. E. S. Edgerton, Wichita.
Dr. J. F. Hassig, Kansas City.
Dr. Geo. M. Gray, Kansas City.
Dr. O. P. Davis, Topeka.

BUREAU OF PUBLIC RELATIONS

Dr. E. S. Edgerton, Wichita.
Dr. J. F. Hassig, Kansas City.
Dr. Geo. M. Gray, Kansas City.
Dr. O. P. Davis, Topeka.
Dr. Earle G. Brown, Topeka.
Dr. W. S. Lindsay, Topeka.
Dr. Alfred O'Donnell, Ellsworth.
Dr. W. E. McVey, Topeka.

COMMITTEE ON PUBLIC HEALTH AND EDUCATION

Dr. Earle G. Brown, Topeka.
Dr. J. T. Axtell, Newton.
Dr. W. P. Callahan, Wichita.
Dr. H. E. Haskins, Kingman.
Dr. Geo. I. Thacher, Waterville.

Dr. L. B. Gloyne, Kansas City.

COMMITTEE ON PUBLIC POLICY AND LEGISLATION

Dr. W. S. Lindsay, Topeka.
Dr. C. S. Huffman, Columbus.
Dr. Karl Menninger, Topeka.
Dr. E. S. Edgerton, Wichita,
(Ex-Officio.)
Dr. J. F. Hassig, Kansas City,
(Ex-Officio.)

COMMITTEE ON SCHOOL OF MEDICINE

Dr. Alfred O'Donnell, Ellsworth.
Dr. L. F. Barney, Kansas City.
Dr. L. G. Allen, Kansas City.
Dr. H. J. Duvall, Hutchinson.
Dr. F. A. Trump, Ottawa.

COMMITTEE ON HOSPITAL SURVEY

Dr. Geo. M. Gray, Kansas City.
Dr. David W. Basham, Wichita.
Dr. Wm. M. Mills, Topeka.

COMMITTEE ON MEDICAL HISTORY

Dr. W. E. McVey, Topeka.
Dr. W. S. Lindsay, Topeka.
Dr. O. D. Walker, Salina.

COMMITTEE ON SCIENTIFIC WORK

Dr. J. F. Hassig, Kansas City.
Dr. W. E. McVey, Topeka.
Dr. H. L. Chambers, Lawrence.

COMMITTEE ON NECROLOGY

Dr. E. E. Liggett, Oswego.
Dr. W. E. McVey, Topeka.
Dr. J. F. Hassig, Kansas City.

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CHIPS

Hemochromatosis is one of the rare diseases the etiology of which is still in doubt. Something more than one hundred cases have been reported since it was first described by von Recklinghausen in 1889. At least in the later stages of the disease it is characterized by pigmentation of the skin, glycosuria and hemosiderin granules in the urine. The liver is enlarged in a large per cent of the cases. Hemofuscin and hemosiderin are deposited in the liver and pancreas and various other organs and tissues. Funk and St. Clair have reported a case of this disease in which studies of the copper content of the liver were made. (Archives of Internal Medicine, Jan. 1930). In their necropsy studies of this case they found 14.0 mg. of copper per kilogram of fresh liver tissue, in two apparently normal livers they found 1 mg. and 9 mg.

of copper per kilogram of tissue. A probable inaccurate estimation of the iron content of the liver showed 6.2 gm. per kilogram of tissue. No definite cause for the deposit of iron is suggested although it has been suggested that copper may be the etiologic factor of the disease. Experiments of Mallory are quoted in which it was shown that copper powder is absorbed through the respiratory and gastrointestinal tracts and there follows a deposition of yellow pigment, hemofuscin in the liver, heart, kidneys, bone marrow and probably in other organs. Citric and other acids in foods are efficient solvents of copper. There are numerous sources for copper contamination of food, in fact a large number of food materials contain some copper as does also the various organs and fluids of the body.

There is occasion for more careful interpretation or roentgenograms of the chest in children, according to a paper on this subject by Bigler appearing in *American Journal of Diseases of Children*, December, 1929. He says that calcification is a term that is used frequently by all who interpret roentgenograms, and many diagnoses of tuberculosis have been made on its supposed presence. He believes that the frequency of calcified nodes in the chest of children is over-estimated. The fact that tuberculin reactions were positive in only 40 to 50 per cent of the cases in which calcification was diagnosed seemed to indicate that densities were produced by other causes. In 171 necropsies on patients under 5 years of age calcification was found in only five instances. Wollstein and Bartlett reported only eighteen instances of calcification in 1320 necropsies. The author says the incidence of tuberculosis in children admitted to the Children's Memorial Hospital is much lower than the figure quoted for tuberculosis in children.

The caseated tracheobronchial glands in infancy and childhood are difficult to diagnose. The physical signs are not constant and the Pirquet test is not sufficient. This is the conclusion of Armond-Delille and Lestocquoy in a paper published in *American Journal of Dis-*

ease of Children, December, 1929. They believe the only way to arrive at a proper diagnosis is to supervise all children who have been in frequent and close contact with a germ carrier, and to have good roentgenograms carefully examined. Smith, in an article in the same publication on tuberculin reactions, seems to think that the Mantoux test provides the means of making a correct diagnosis in these cases. He also suggests that since the tuberculosis process in childhood is generally in lymphatic tissue where it is easily encapsulated and where scar tissue does no great harm, it is important that a diagnosis be made early.

An important part of the phenomena of arthritis and the rheumatoid syndrome is referable to disturbances in the peripheral blood flow, is the conclusion drawn by Wright and Pemberton from their experiments on the peripheral surface temperatures in arthritis, reported in *Archives of Internal Medicine*, January, 1930. On the theory that, no matter what the infectious origin of arthritis may be, there is need for further information bearing on the disturbances of physiology, the authors began some years ago a series of studies on the peripheral blood flow in arthritics. Their observations showed that 75 per cent of arthritic subjects maintain a peripheral temperature lower than normal subjects. On exposure to cold the temperature of the arthritic drops less than that of a normal subject, but the return to the previous level is slower. They suggest that whatever changes exist in the capillary bed and the less active vasomotor control may account for exacerbations experienced by arthritic subjects during fluctuation in weather.

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SOCIETIES

RUSH-NESS COUNTIES SOCIETY

The Rush-Ness Counties Medical Society held its meeting Tuesday, February 4 at Dr. Roy Russell's office at Ness City at 7 p. m.

Dr. Russell presided. The following officers were elected for the ensuing year: Dr. W. Singleton, McCracken, president; Dr. W. S. Grisell, Ransom,

vice president; Dr. F. D. Smith, La-Crosse, secretary-treasurer.

In response to a letter from Dr. Hasing, Dr. Roy Russell of Ness City was selected to write and read a paper at the state meeting in May at Topeka.

It was decided to hold the next meeting at Dr. F. D. Smith's office at La-Crosse in April, date to be decided upon by the secretary and depending upon the condition of the weather and roads at that time.

Dr. Charles Ewing of Larned gave a talk on "Business Relations of County and State Medical Societies." A general discussion followed.

Dr. W. Singleton of McCracken read a paper on "Influenza, Complications and Treatment." A general discussion of the paper followed.

The meeting was adjourned. Lunch served.

W. SINGLETON, Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met at the Clay Center Municipal Hospital on the evening of February 12, 1930. The members of the society and a number of physicians from the surrounding counties were guests of the hospital trustees and management for dinner. An excellent banquet was served in the nurses' dining room of the hospital by the student nurses. Opportunity was afforded all the members of the board of trustees to speak.

Following the dinner program, Dr. R. J. Morton, Dr. E. N. Martin and Dr. C. C. Stillman gave short talks eulogizing Dr. Xanophen Olson, our former secretary, who recently sold his practice in Clay Center and is departing for California. Dr. J. L. Dixon, who recently located in Clay Center was voted a membership in the society.

Dr. Frederick B. Campbell of Kansas City, Mo., was the speaker of the evening and gave an illustrated talk on "The Diagnosis and Treatment of Some Rectal Diseases." Dr. Campbell called particular attention to the importance of diagnosis of rectal disease and described in detail the injection treatment of hemorrhoids.

Seventeen members of the society and eight guests were present.

F. R. CROSON, Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The Franklin County Medical Society held its regular monthly meeting Wednesday, February 26. Joint session with the Douglas County Society.

Supper at the North American Hotel, program following. Dr. W. F. Crew, who has recently located in Ottawa transferred his membership from the Allen County Society to the Franklin unit. Dr. J. F. Barr who recently located in Ottawa placed his application for membership. Dr. William T. Tilley, formerly of Muskogee, Okla., who recently located here for the practice of surgery, made his first appearance among the fellows.

The program of the evening was a symposium on the subject of influenza. Dr. William J. Scott presented a paper entitled "My Last Half-Year's Experience and Personal Encounter with Influenza." A very able discussion of the subject from a practical angle. Dr. Noble P. Sherwood gave an illustrated talk on the subject, introducing a large number of pictures to show the histology departure from the normal in influenzas and their sequellae. These two numbers were formally discussed by Dr. V. M. Auchard of Lawrence, who added quite a review of his and others' experiences with influenza in the world war cantonments and overseas contingents.

Quite lively general discussion followed and brought out some quite striking ideas in the treatment. Dr. H. W. Gilley, dean of the profession, now 52 years in practice here, seemed even more progressive than many of his younger colleagues.

He advocates the use of rather heroic administration of diphtheria antitoxin as a routine as soon as he is able to suspect a diagnosis of influenza. The doctor fortified his position with the statement that since beginning the use of the antitoxin he has had practically no fatalities, and had much more rapid recoveries of his patients. Stating that his knowledge and confidence in the use of the antitoxin had taken away much of the terror to the

patient and anxiety to himself when confronted with influenza.

Dr. G. M. Liston of Baldwin, more progressive and assertive than even the veteran Dr. Gilley, justified the practice of early administration of antitoxin, and sounded yet a clearer note for a brighter outlook for those afflicted and their contacts, by asserting confidence in the various vaccines, mixed and otherwise in the field of prophylaxis.

The attitude of Dr. Liston brought out our member, Dr. H. B. Johnson of Pomona who out of his experience with the vaccines was even more enthusiastic in his confidence and belief in the efficiency of the vaccines to thwart epidemics, even though used after exposure, and in this connection he stressed the importance of his belief that influenza exhibits its contagious peak within the first hours of the antecedent malaise.

The papers, pictures and discussions aroused much interest which brought many expressions from every one present, and ran the meeting into the late hours and was going strong when adjournment was had.

The next regular meeting of the Society will be a joint meeting with the Leavenworth County Society at Lawrence, with the members of the Douglas County Society as guests. The meeting will be held at the Colonial Inn at 6:45 p. m. Dinner followed by the program.

Paper, by Dr. H. K. B. Allebach, Ottawa. "The Use of Forceps in Obstetrics." Paper, "Manual Deliveries," by Dr. H. J. Stacy of Leavenworth. Talk, "Substitute for Forceps," by H. T. Kimsey, Lathrop, Mo. Closing with a discussion of "Results of Instrumentation on the Child," by Dr. C. B. Francisco.

Readers of the Journal who are within the first 50 mile zone by all weather roads are cordially invited to dine and join with us, Wednesday, March 28, 6:45 p. m. at the Colonial Inn, Lawrence, Kansas.

GEORGE W. DAVIS, M.D., Sec'y-Treas.

DEATHS

James S. Chase, Topeka, aged 81, died January 23, 1930, of cerebral hemorrhage. He graduated from Western

Reserve University School of Medicine, Cleveland, Ohio, in 1871.

Sherman L. Axford, Lansing, aged 50, died February 26, 1930, in a hospital in Kansas City. He graduated from the College of Physicians and Surgeons, Kansas City, Kansas, in 1902. He had been physician of the State Prison for seventeen years. He was a member of the Society.

T. E. McCormick, Plainville, aged 52, died February 21, 1930. He graduated from St. Louis University Medical College in 1906. He was a member of the Society.

Jacob Henry Haldeman, Paola, aged 68, died recently. He graduated from Jefferson Medical College in 1883.

Harry N. Kirkpatrick, Anthony, aged 80, died January 21, 1930. He graduated from St. Louis College of Medicine in 1878.

Tribute to Dr. J. G. Dorsey

The ranks of the pioneer have again been broken. A noble and conspicuously outstanding man is gone from our midst. Like a soldier in a righteous cause who falls on the field in the heat of the strife, Dr. Dorsey's calling away was not long foreseen. He plied his skillful hand in the alleviation of human affliction almost to the verge of the grave. As the years crept on but still in no way yet enfeebled he requested his intimates to give warning of the first indications of failing that he might relinquish his work while still in the full possession of all his faculties. But no one was ever able to observe any indication of faltering either of hand or head. So thus he plied his beneficent art to near the close of life.

Dr. Dorsey was justly renowned for his skill and judgment in the operative treatment of cataract, his patients coming from all parts of the country. His entire life was, indeed, an unbroken period of assiduous work and study. Many and many an aged individual deprived of vision, and groping in darkness through the evening of life, has been made happy through the restoration of sight by the skill and genius of our de-

parted friend. Like most all men of real worth who attain to celebrity, Dr. Dorsey was modest in manner and dress. His mind was fixed upon the worthwhile things of life. He was beloved and respected by all but more particularly so by those moving in the midstratum of the social world. Dr. Dorsey apparently gave no special attention to the pecuniary side of his profession; at least he never acquired the reputation of troubling his patients for money, notwithstanding he possessed a fine understanding of finance and investment and succeeded in accumulating a comfortable fortune. He was generous with his means and contributed much to worthy charities. He was profoundly interested in both church and state and always played a leading role in the activities of his chosen church. He was a lover of good literature, more on account of the matter set forth than for style, and was always among the first to read the newer books. Though he never traveled abroad he was an extensive traveler in his own country. Only a few weeks before his death he attended the Clinical Congress of the College of Surgeons held in Chicago, going from there to Atlantic City to the meeting of the American Academy of Ophthalmology.

We miss his genial presence about the hospital, for it was he who invariably initiated the day's activities at St. Francis Hospital. He arrived at 7 in the morning, or shortly afterward, and was ready to leave within an hour, going directly to his office where he spent the day among his patients. He usually performed one or more operations for cataract every morning and many of the younger representatives of his specialty were wont to gather about the table to observe his work and to listen to his words of counsel.

It may be truthfully said that Dr. Dorsey embodied the most exalted type of citizenship, patriotism, and professional attributes, and this is the highest tribute that can be paid to any man. The powers of life cannot be devoted to any loftier purpose nor can life's activities find a more useful field than in the alleviation of human affliction. The pre-

vention of blindness and the restoration of sight to those who are blind constitute the highest type of that form of service. Of such beneficent deeds was constituted the life and works of our lamented Dorsey.

D. W. BASHAM.

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**Official Health Program of the Woman's
Auxiliary of the American Medical
Association**

PUBLIC HYGIENE

Fundamentals upon which auxiliary work for improvement of public hygiene should be based:

Recognition of the fact that public health work is a highly technical job, requiring scientific, technically trained workers. That health work undertaken by lay women with no knowledge of the public health problem as a whole is necessarily fragmentary and ineffective.

Recognition of the fact that every state, county and city is entitled to a scientific full-time health department (organized not to treat the sick, but to prevent disease and promote health), adequately financed, free from political domination, and providing continuity of service to a trained personnel so long as work is efficient.

Recognition of the fact that the first and most fundamental job for lay organizations like the auxiliary is to secure such scientific full-time health departments and adequate health protection, in their state, their county, their city or town.

Recognition of the fact that where efficient, full-time scientific health departments do not exist (and only about ten per cent of the rural districts of the United States have anything approaching adequate health protection), health activities must be initiated and carried on by volunteer unofficial agencies; but that all such work should be so planned and administered as to serve as stepping-stones toward the full-time official health department, and that when the full-time official health department, with workers trained for public health work, has become an accomplished fact, lay organizations should support and co-operate with the official workers and should be willing to take orders from them.

Recognition of the fact that no health department, state, county or city, can do effective work without intelligent cooperation of the public; that such public cooperation depends upon wide-spread health education; that lay organizations can do this educational work, and are needed for it; and that the auxiliary can be one of the most valuable tools for an official health department to use in this work, because it can by its education of the public concerning the official health department's work and needs, be the means of gradually eliminating or preventing political interference with an efficiently working department, and thus insure to it uninterrupted public service.

Most volunteer agencies do not yet realize the wastefulness of their individualistic efforts. One of the first things the Auxiliary should do is to work for a change of attitude in other volunteer women's organizations.

Health officials know that it is not always the work which makes the greatest emotional appeal to the public which most needs to be done. Unfortunately most women do not know this. This is something the doctors' wives might well undertake to teach other women.

The National Auxiliary recommends, therefore, that each State Auxiliary undertake, under the direction and with the help of the Public Health Committee of the State Medical Association and of its Advisory Council a study first of all of the fundamental principles of health promotion and disease prevention; second, of the set-up considered essential by public health experts for an effective state health department, of qualifications of personnel, adequate budget, and the like; and third, of the state health conditions; that it devise means of acquainting all the state board members with the result, and that recommendations for educational work by the county auxiliaries be based upon the conditions found.

In states where all is well and where time has developed good official health machinery and good health conditions, general knowledge of the fact will tend to prevent interruption of the excellent work, and will be a source of satisfaction to the women of the state.

In those states where there is much yet to be done, this investigation will indicate what sort of work needs doing first. For example:

(a) In those states which are not in the Birth Registration Area, the auxiliaries would, without doubt, wish to tackle, as their first job, the ninety per cent birth registration problem.

(b) In those states in which the state health department believes the "County Health Unit" to be the solution of the rural health problem, the county auxiliaries should be encouraged to take as their chief work such persistent and wide-spread education of the public as will gradually create a general demand for the full-time county health department.

(c) In those states where the rural health work is directly done "long distance" by the state health department, the county auxiliaries, if willing to work, and work under the directions of the state health department, can carry on intensive local health education work which would be impossible for the state department without intelligent local cooperation.

To those auxiliaries which agree with these ideas the committee recommends the following outline of study:

(1) Vital Statistics. Their value. Compare the vital statistics of the state with those of other states. Compare the vital statistics of the different counties of the state. Compare the vital statistics of the cities with other cities in the state, and in the United States.

(2) The State Health Department; its organization; and program:

(a) For general state work.

(b) For cooperating with the counties in improving county health conditions.

(3) The value of the Public Health Nurse.

(4) The County Health Unit as a possible solution of the rural health problem.

(5) Milk: Milk standards, why necessary, what milk standards your community needs. How are these needs being met?

(6) Housing: Your community housing laws. Housing conditions as they have developed under these laws and as they affect health. Improvements needed.

(7) General Sanitation and its relation

to the death and morbidity rates. Sewage disposal. Water. Garbage. Flies. Dust and street cleaning, etc.

PERSONAL HYGIENE

The improvement of personal hygiene in any community is almost entirely a matter of education. Here again the Auxiliary members must first educate themselves before they can take a safe part in educating the public. The committee therefore recommends that the Auxiliary study programs shall include such subjects as:

Health Promotion:

Prenatal care.

Child Welfare—infant and pre-school hygiene.

School hygiene.

Mental hygiene.

Social hygiene.

The advantage to the public of general compliance with health regulations.

The periodic health examination.

Control of communicable diseases.

The entire program should close with a survey of all the private agencies doing health work in the community, and a discussion of the possibility and desirability of centering the direction of all such work in a full-time, scientific health department, under which the private agencies, while still maintaining their identity, would work in complete cooperation.

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MEDICAL SCHOOL NOTES

Dr. L. A. Calkins talked before the Ford County Medical Society, Dodge City, Kansas, recently on "Some Interesting Phases of Obstetrics."

Dr. Fred Angle, '26, and Dr. Charles K. Shofstall, '26, of the Medical School Faculty, are taking postgraduate work in New York City.

Sixty Sophomores have entered the Kansas City division of the School of Medicine.

Dean H. R. Wahl, Dr. L. A. Calkins, and Dr. Logan Clendening were on the program at the annual dinner of the medical students given at Lawrence recently.

Dr. R. L. Haden recently read a paper

before the Jasper County Medical Society, Joplin, Mo., on "Rheumatism."

Dr. L. P. Engel read a paper before the Johnson County Medical Society on January 20 on the "Chronic Abdomen."

Dr. R. L. Haden recently talked on Intestinal Obstruction at the Crile Clinic in Cleveland, Ohio. While in Cleveland he also talked before the Cleveland Dental Society and the Academy of Medicine on Focal Infection.

—R—

BOOKS

Treatment in General Practice. By Harry Beckman, M.D., Professor of Pharmacology, Marquette University Medical School, Milwaukee, Wisc. Octavo volume of 899 pages. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$10.00 net.

The author seems to think, and he is no doubt correct, that too little attention is given to the subject of therapeutics in most all medical schools. Following the days of pure empiricism there was a time when some effort was made to find some correlation between the physiologic action of a drug and the disturbed function or pathologic condition it was intended to correct. Possibly that was hopeless, at any rate our therapy while apparently as efficient needs less explanation.

The author has presented the therapy of all the diseases mentioned that has met the approval of clinicians generally. Whenever possible the rationale of the treatment is carefully explained. Quotations from various authors are given in explanation of many of the therapeutic procedures. This book should prove of considerable interest and considerable value to the general practitioner.

A Text-Book on Orthopedic Surgery. By Willis C. Campbell, M.D., F.A.C.S., Professor of Orthopedic Surgery, University of Tennessee, College of Medicine, Memphis. Octavo volume of 705 pages, with 507 illustrations. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$8.50.

The author has endeavored to cover the field of orthopedic surgery as fully as present knowledge of the subject permits. He has included subjects usually belonging to general surgery, such as fractures and dislocations. Since these, however, constitute a part of the regular

practice of the orthopedic surgeon, it seems appropriate. Considerable attention is given to methods of examination and particular emphasis is placed upon differential diagnoses. The etiology and pathology of the conditions presented are discussed fully. The book is very finely illustrated.

Research and Medical Progress and other addresses by J. Shelton Horsley, M.D. Published by The C. V. Mosby Company, St. Louis. Price \$2.00.

This is a collection of medical addresses delivered by the eminent author at various places at various times. They are both interesting and instructive.

The Medical Clinics of North America. (Issued serially, one number every other month.) Volume 13, No. 4. (Philadelphia number, January, 1930) Octavo of 301 pages, illustrated. Per clinic year, July, 1929, to May, 1930. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

Riesman presents some cases of unusually distended bladder and cases of gastro-enterocolitis, para-typhoid infection and food poisoning. Piersol reports a case of Brill's disease. Gettings discusses the subject of prophylaxis in children. Robertson discusses the etiology and pathology of nephritis. Talley and Glenn report some interesting kidney lesions. Funk and Clerf report cases of bronchial obstruction. Stoud gives his views on the treatment of cardiovascular disease in children. Weiss discusses the diagnosis of cardiovascular disease. Shay, et al, discuss the diagnosis of gall stones. Walferth and Wood have something to say about angina pectoris. Rose discusses some cardiac conditions. Farley presents a case of monocytic leukemia. Wilmer presents some atypical types of hay-fever. These subjects selected at random give a very fair idea of the contents of this number of the clinics. A considerable variety of cases is noted and in the discussion of them much that is worth while has been brought out.

Visceral Disease, symptoms of, by Francis Marion Pottenger, M.D. Fourth edition. Published by The C. V. Mosby Company, St. Louis. Price \$7.50.

With such additions and alterations in the text as are required by the continuous advances in our knowledge the author stresses, as in his first edition,

the importance of psychical as well as physical influences in the development of visceral disturbances. The function of the vegetative nervous system in causing disharmony in conditions of disease is emphasized.

Getting Well and Staying Well, by John Potts, M.D. Second edition. Published by The C. V. Mosby Company, St. Louis. Price \$2.00.

This little book is prepared especially for tuberculous patients. The author instructs the patient as to the type of physician he should consult the extent and character of the examination he should receive and in pretty careful detail the care and treatment he should receive. It can hardly be called a mail order course in the treatment of tuberculosis, but in the hands of a patient it affords him a means of checking up on his attending physician.

Tonsil Surgery, by Robert H. Fowler, M.D., chief surgeon of the Tonsil Hospital, New York, etc. Published by F. A. Davis Company, Philadelphia. Price \$10.00.

After no one knows how many million tonsils have been removed by numerous thousands of surgeons, it does seem that a standard operation should have been devised. The frequent appearance of new operations, however, suggest that there must still be room for improvement. If Dr. Fowler gave the same care and study to the perfection of his operation that he must have given to the preparation of his book it should approach the last word in tonsil surgery. The very careful anatomical studies of his co-workers and himself have revealed some very valuable data and from the description of his operation one is encouraged to believe that at last the removal of tonsils is coming to be regarded as real surgery in which there will be some effort not only to remove the tonsils but to preserve the throat in something like its normal appearance and anatomical relations.

Practical Psychology and Psychiatry, by C. B. Burr, M.D., late medical director, Oak Grove Hospital, Flint, Michigan, etc. Published by F. A. Davis Company, Philadelphia. Price \$2.75.

This is the sixth edition. It is intended for the instruction of nurses in training. Some alterations of the text and some additions have been made.

Physiology, a textbook for nurses by William Gay Christian, M.D., and Charles C. Haskell, M.D. Second edition. Published by The C. V. Mosby Company, St. Louis. Price \$2.00.

This text was prepared for the instruction of nurses in training. It gives one the impression that it is much condensed rather than simplified. Presumably it contains all concerning the subject of physiology that nurses need to know, but one might ask if anyone has yet determined what or how much a nurse ought to know about any of the subjects taught.

Essentials of Medical Electricity, by Elkin P. Cumberbatch, medical officer in charge electrical department St. Bartholomew's Hospital, etc. Sixth edition. Published by C. V. Mosby Company, St. Louis. Price \$4.25.

This work has been largely rewritten and many alterations have been made. The author has given considerable attention to galvano-therapy in which some new ideas have been suggested and some new procedures introduced. The chapter on diathermy has been rewritten so as to include its more recent applications. The work presented has been based very largely on the experience of the author, at least as to the therapeutic applications of electricity.

Mechanical Factors in Copstipation

Dudley Smith, San Francisco (J.A.M.A., Feb. 8, 1930), enumerates causes of constipation, which are a tight or hypertrophied sphincter; hemorrhoids; pressure; prolapse; infection of the mucosa; diverticulitis; stricture; proctostasis; lacerted perineum; abnormal abdominal muscles; adhesions; cancer, and Houston valves. He asserts that in the treatment of chronic constipation, all of these conditions should be borne in mind and either discovered and corrected or ruled out. They can be discovered only by careful examination—digital, anoscopic, sigmoidoscopic or careful physical and roentgen examination. It is to be regretted that many cases of constipation are daily treated without examination of the rectum and sigmoid. Physicians who would not think of treating sore throat, diseases of the chest, diseases of the female genitals or, in fact, any other region of the body without careful examination all too frequently

treat constipation by diet, laxatives and other methods without any examination to determine the cause of this symptom. It is the duty of physicians to call attention to this fact as often as possible until this situation is remedied. A careful examination of this region will often reveal unsuspected lesions of much more serious import than the complaint for which the patient consults the physician. Many illustrative cases could be mentioned. In Smith's judgment every patient complaining of constipation or of any rectal trouble should be given the benefit of a careful examination of the lower bowel.

R

Cause of Cataract and Nonoperative Treatment of Incipient "Senile" Cataract

John E. Weeks, New York (J.A.M.A., Feb. 8, 1930), asserts that except in the relatively few cases of occupational cataract, the development of spontaneous cataract is due to nutritional irregularities, such as a lack of a sufficient supply of acceptable pabulum or the presence of toxins in the pabulum supplied (as in diabetes, intestinal disturbances, and foci of infection), or to endocrinopathy. While it is not possible to restore degenerated lens tissue much can be done, particularly in the early stage of the development of cataract, to arrest or to retard its development by improving systemic and local nutrition. In the endeavor to arrest or to retard the development of senile cataract, Weeks determined to supplement improvement in general health by improvement in local nutrition, if possible, by periodically increasing the flow of blood in the anterior tissues of the eye. A number of measures were tried; eventually a mixture of equal parts of a solution of boric acid, 3 per cent, and glycerin was selected. It was found that this mixture, when instilled into the eye, produced a sharp, smarting sensation, lasting about a minute, and an active hyperemia. Hyperemia always follows the instillation of this mixture; tolerance, such as follows repeated instillations of ethyl-morphine hydrochloride, is not established; consequently it can be used indefinitely with the assurance of a

uniform result. Patients were advised to instill the drops once daily, at night, in cases in which there was very little lens opacity; twice daily in more advanced cases. Although there is little danger of bacterial contamination, patients were advised to have the drops made fresh every month or six weeks. Treatment was discontinued only when arrest in the development of the cataract was assured. Patients were advised to report every six months or a year, or oftener if they thought necessary. All patients were notified of the presence of lenticular opacities (the term cataract was avoided when it was thought advisable) and thoroughly advised of the importance of the regular and persistent use of the drops. Patients were referred to their family physician for a thorough physical examination and were advised to have any conditions detrimental to health corrected, if possible. The tension of the eyeballs was tested in all cases by means of the tonometer (Schiotz) after it became available, whenever there was any suspicion of hypertension.

—R—

Amelioration of Mental Disease by Influenza

Karl A. Menninger, Topeka, Kan. (J.A.M.A., March 1, 1930), asserts that the fact that any somatic disease may influence any mental disease favorably is a matter of great theoretical and practical importance. For example, it is known that influenza may precipitate or aggravate all known types of mental disease pictures. It is also known that schizophrenia, for example, may be provoked into external expression by many agents including any and all infectious diseases. He reports six cases which have come under his observation. He has not observed improvement in any case of schizophrenia or psychoneurosis or melancholia after influenzal attacks. Of the many intriguing speculations which the establishment of this phenomenon makes possible. Menninger would address himself to three: 1. What are the mechanisms of the process? 2. What are the psychodynamics involved? 3. Finally, he would mention the implications of these data as to the essential nature of schizo-

phrenia, and particularly as to its reversibility. Apparently the plurality of reported cases presented schizophrenic pictures, but even if only one did so, and clearly, the contention that the schizophrenic process is a reversible one would receive valuable support. The theory of catalytic action proposed bears especially on this hypothesis. All of the pragmatic consequences depend on it. What are the real conditions of reversible action in schizophrenia? To date he thinks we know none of them definitely.

—R—

Scarlet Fever Prophylaxis

Four hundred and fifty contacts with scarlet fever have been given 7.5 cc. each of the pooled blood serum from donors who have had scarlet fever within a year or a little later. The serum has been given to the contacts within six months from the time it was drawn. A study of the subsequent history of the contacts, made by F. M. Meader, Detroit (J.A.M.A., March 1, 1930), shows that 2.9 per cent developed scarlet fever, while 12.8 per cent developed scarlet fever in a similar group of contacts who did not receive the serum. Apparently about 85 per cent were protected from developing scarlet fever. He concludes that immunity apparently does not last longer than three or four weeks. The prophylaxis is particularly valuable for young children who have been recently exposed to scarlet fever and it is also recommended for the infirm. Prophylaxis has been found useful in checking outbreaks of scarlet fever in hospitals and other institutions.

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Roentgen Treatment of Uterine Fibromyomas

Francis Carter Wood, New York, (J.A.M.A., March 1, 1930), stresses the point that many uncomplicated fibromyomas are still removed surgically which could perfectly well be treated by roentgen irradiation. The advantages of the *x*-rays are the lack of risk, the simplicity of the treatment, the certainty of the results, and the low cost to the patient. Treatment with radium is more complicated and since it is a minor surgical operation requires hospitalization, while the

overhead for capital charges and insurance necessitates a higher cost to the patient. In young patients myomectomy is preferable as permitting future pregnancies, and surgery is indicated in those persons with ovarian disease and inflammatory complications.

—R—

Dangerous Preparation of Digitalis

John Wyckoff and Harry Gold, New York (J.A.M.A., March 1, 1930), give a brief summary of observations on the potency of digitalis. They found that of two specimens, one was twice as potent as the other. They stress the importance of knowing the exact potency of digitalis and, incidentally, they call attention to the misbranding of digitalis by manufacturers. It is not possible to state how frequently digitalis on the market is misbranded. The fact that such practice has been discovered is a matter of grave concern to the physician who is compelled to rely on the accuracy of the manufacturing pharmacist. It is well to be reminded that digitalis is a potent drug which varies widely in activity, and the experience of the pneumonia committee in the forthcoming reports will indicate even more clearly the dangers arising from the use of any preparation of digitalis the potency of which is not accurately stated.

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The Physician's Policy Is Mead's Policy

Messrs. Mead Johnson & Company, in addition to producing dependable Infant Diet Materials such as Dextri-Maltose, have for years been rendering physicians distinguished service by rigidly adhering to their well-known policy which is the following:

"Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor who changes the feedings from time to time to meet the nutritional requirements of the growing infant. Literature is furnished only to physicians."

Every physician would do well to bear in mind that in this commercial age, here is one firm that instead of exploit-

ing the medical profession, lends its powerful influence to promote the best interests of the medical profession it so ably serves.

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The Committee on Foods

More than a hundred products, representing the products of numerous manufacturers, have been submitted to the committee, in addition to several national advertising campaigns by co-operative marketing organizations. This co-operation is welcomed by the committee but obviously has thrown a great burden of work on the committee at the start. Manufacturers have greeted with acclaim the permission to use on packages and in advertising the seal of the committee. Whereas less food is eaten, so far as concerns caloric or energy value, foods have been greatly modified to improve palatability and to provide what are recognized as necessary ingredients in the form of vitamins and mineral salts. It is the hope of the committee that its efforts will give stability to a rapidly growing industry and prevent the sinking of the modern food market in a morass of hokum such as engulfed the drug industry in its developing stages. (J.A.M.A., Feb. 8, '30.)

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The Twenty-Fifth Anniversary of the Council on Pharmacy and Chemistry

At a meeting held February 3, 1905, the board of trustees of the American Medical Association created an advisory board to be known as the Council on Pharmacy and Chemistry. The organization of this council was perfected on February 11, 1905. Thus the Council on Pharmacy and Chemistry passes the twenty-fifth year of its organization and continues, in a second quarter century, one of the most notable works for scientific medicine ever accomplished by any organized group. It is significant that several of the original members of the body have maintained their connection since its inception and that the secretary, W. A. Puckner, has rendered continuous service as a full-time officer for the body from the first. The council could not have achieved what it has, without the support of the medical profession of our country. Thus, with the establishment

of the council, the advertising of medicinal preparations in the Journal of the American Medical Association was limited to those products that had been passed by the council. The same rule has applied to the other publications of the association, and finally every state medical journal, except those of Illinois and New York, followed this lead. A considerable number of journals not controlled by medical societies also give their support to the council's work. The medical profession must support the council or its work will be futile. The members of the council serve without remuneration and The Journal of the American Medical Association tenders to them the thanks and appreciation of the profession that they have so well served. (J.A.M.A., Feb. 8, '30.)

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Vitamin D in Tuberculosis

A recent investigation of the role of vitamin D in the management of tuberculosis indicated that the administration of viosterol did not produce any detectable acceleration of the healing process. These observations suggest that such value as cod liver oil possesses in tuberculosis does not depend on its relatively high concentration of vitamin D. These studies emphasize the fact that cod liver oil possesses more than one claim to nutritive value, for it is even richer in vitamin A than in the antirachitic factor. In spite of the enormous antirachitic potency of viosterol, this material is by no means to be regarded as therapeutically equivalent to cod liver oil. (J.A.M.A., Feb. 8, '30.)

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Antistreptococcus Serum Omitted from N. N. R.

The Council on Pharmacy and Chemistry reports that for some years it has been questioning the value of antistreptococcus serum preparations. In 1928 the council decided that unless new and favorable evidence became available, all streptococcus serum preparations would be omitted from new and nonofficial remedies with the close of 1929. Since no such new evidence has become available, the council has omitted all antistreptococcus serum preparation. (J.A.

M.A., Feb. 15, '30.)

—R—

Viosterol or Irradiation

If rickets is the disorder that is to be cured or averted, both cod liver oil and irradiated ergosterol, the latter now available as viosterol in oil 100 D, act as specifics; so that irradiation with artificial light sources is not essential though its effectiveness to accomplish the same ends deserves emphasis. Viosterol also serves to promote the proper metabolism of calcium and phosphorus in other disorders. On the other hand, irradiation with ultraviolet rays doubtless produces a variety of physiologic effects about which we are still largely uninformed. (J.A.M.A., Feb. 22, '30.)

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Aid to Diagnosis of Colonic Adhssions

It has been the custom of Louis J. Hirschman, Detroit (J.A.M.A., Jan. 25, 1930), for many years to make a routine fluoroscopic examination of all the patients presenting colonic symptoms. In the course of these examinations, particularly of those patients who possessed abdominal scars or points of tenderness on manipulation, certain points of bowel fixation or immobility were repeatedly noted. In the course of manual manipulation after the administration of an opaque enema under the fluoroscope it was found that certain manipulations produced definite results. When an operative scar was noticed on the patient's abdomen and traction was made on the scar, fluoroscopic observation noted fixation, immobility or distortion of the part. On pulling or tugging it was found that portions of the colon could be drawn in the direction of the pull. For instance, in tugging on a median scar a downward pull on the transverse colon would be seen, or an upward or outward pull would draw a loop of the sigmoid with it. Traction on a right rectus scar would often not only pull the cecum with it but frequently pull the transverse colon as well. The results of these tugging efforts indicated adhesions, either directly between the viscus and parietal perineum or omental adhesions from the colon to the scar, or binding several points of the large or small bowel to the scars. In

many patients the sigmoid would be found fixed in the lower left pelvis and occasionally there would be a definite angulation of the left median colon with adhesion of the omentum to the left broad ligament and adnexa. In the latter instance, these conditions were often found in patients who had not had a previous laparotomy but who had had some inflammatory disease of the pelvis or a stormy confinement. Hirschman places great reliance on this tugging sign. It is offered to the profession with the hope that it will be tried out and evaluated by those proctologists, gastro-enterologists, abdominal surgeons and roentgenologists who have access to considerable clinical material.

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Sodium Hydrosulphite in Treatment of Acute Arsenical Poisoning

The use of sodium hydrosulphite in mercuric chloride poisoning has led W. R. Bond and E. W. Gray, Richmond, Va. (J.A.M.A., June 8, 1929), to conduct a series of experiments to determine whether the compound would exert any favorable influence in cases of acute arsenic poisoning. These experiments have been carried out on apparently healthy dogs following a twenty-four hour period of starvation, so that the presence of food in the stomach would not influence absorption of the arsenic preparation. To prevent vomiting, 10 mg. of morphine sulphate per kilogram was injected subcutaneously, followed in half an hour by the oral administration of the poison. As a source of arsenic they have employed solution of potassium arsenite-U. S. P. (Fowler's solution), which was administered from a buret into a funnel connected with the stomach tube, and rinsed down with 25 cc. of tap water. In their first experiment, they employed 1 cc. of solution of potassium arsenite per kilogram orally, which was immediately followed by the sodium hydrosulphite, 100 mg. per kilogram in the form of a 10 per cent solution, and was rinsed down with 25 cc. of normal hydrochloric acid. The sodium hydrosulphite exerted a most favorable influence, since both treated animals survived, and the untreated ones died within twenty-four hours. This is

of little practical importance from a clinical standpoint, as in most cases of clinical arsenic poisoning there is a considerable lapse of time before the patient comes under observation. The next experiments were conducted with the view of determining the period of effectiveness for the antidote by allowing varying periods of time, ranging from three to thirty minutes, to elapse before the hydrosulphite was administered. The results obtained in this experiment, while somewhat discouraging, plainly show the necessity of immediate treatment, as well as the rapidity with which potassium arsenite is absorbed from the stomach. The mortality of the treated animals are 100 per cent when the lapse of time was greater than five minutes. All animals treated before this time survived, with the exception of one which died on the sixth day without developing the usual symptoms of acute arsenic poisoning. In the next experiment the quantity of arsenic solution was reduced to 0.75 cc. per kilogram. Less than 10 per cent of the animals treated with sodium hydrosulphite within ten minutes after the administration of a fatal dose of arsenic died. The mortality of the control animals and those treated after this time was 100 per cent, the greatest prolongation of life being only forty-eight hours. It should be borne in mind that these experiments have been conducted under such conditions as would markedly facilitate the absorption of the arsenic preparation. The presence of food in the stomach, as would ordinarily be the case clinically, would undoubtedly delay absorption of the poison to such an extent that the period of effective treatment would be much prolonged. Bond and Gray do not wish to recommend the use of sodium hydrosulphite in the treatment of acute arsenic poisoning as a measure intended to supplant gastric lavage, the importance of which is unquestioned in poisoning from any orally administered drug. As an adjunct to the latter, however, the compound may prove quite effective, particularly in those cases in which the presence of undigested food in the stomach might embarrass the progress of lavage. The immediate administration

of approximate amounts of sodium hydrosulphite may serve to fix or render unabsorbable the arsenic until thorough lavage can be effected, if not to be solely responsible for the patient's recovery.

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Resuscitation of Asphyxiated New-Born

Albert Mathieu and Albert Holman, Portland, Ore. (J.A.M.A., June 8, 1929), hold that in the new-born some practical device is necessary to place the mixture of carbon dioxide and oxygen where it may be used by the infant, in order to overcome the collapsibility of the embryonic larynx and trachea, and to prevent the gas from going into the stomach. This device should be simply, cheap, easy to keep in order and easily accessible at all times. The tracheal catheter meets all of these requirements. By means of the tracheal catheter all mucus, blood and amniotic fluid can be withdrawn from the mouth, pharynx and larynx before resuscitation is attempted. After the air passages are free from foreign material, the gas to be used for resuscitation (expired breath of the operator) can be placed at a location in the child's body where it will be readily available for use. Positive pressure here is of value, as it is delivered into the trachea and inflates the lungs; the air is warm and helps to maintain the body temperature. The tracheal catheter is used with a glass salva-trap at the lips of the operator. The trap is so constructed that any mucus or fluid withdrawn from the child is kept from the mouth of the operator and any droplets of saliva are prevented from being forced into the respiratory apparatus of the child. Introduction of the catheter is a procedure which, if done gently, is comparatively simple and lends itself easily to expertness. The baby, wrapped in a warm blanket, is placed with its head over the edge of a table. The head is steadied by an assistant. After sterile water has been drawn into the catheter to prove its patency, the index finger of the right hand depresses the tongue and at its base locates the tiny slit that is the opening into the larynx. The small fiber catheter is inserted with the left hand, so that its tip eventually finds itself beneath the end of

the finger at the small slit opening into the larynx. Then, by slight depression of the tip of the catheter with the index finger of the right hand, the catheter readily finds its way into the opening of the larynx. The position of the catheter can be easily proved by advancing the finger of the right hand slightly into the esophagus. The catheter is inserted 3 or 4 cm. farther, and suction is made to extract mucus from the larynx and upper trachea. The catheter is then removed and cleared by blowing through it. The catheter is again inserted into the trachea and artificial respiration is started. The first impulse through the catheter should be gentle and of small volume. As the tidal air in the respiration of the average new-born child is only 45 cc., the first inflation through the catheter should be not more than from 10 to 15 cc. and the subsequent ones gradually increased. The operator should puff, very gently, into the catheter through the trap about forty times a minute in order to simulate as closely as possible the normal respiration of the new-born. The force to be used would, with the lips pursed to whistle, be left on the wet finger about $3\frac{1}{2}$ to 4 inches (9 or 10 cm.) from the mouth, or would be about the same force one would use in blowing small smoke rings. Negligence in maintaining the baby's body heat is undoubtedly the cause of some failures. A basin of warm water or soft warmed blankets are adequate. The effort at resuscitation should be continued as long as the heart beats, and may be supplemented with three minimum doses of solution of pituitary and epinephrine. After the establishment of regular respiration, the child should be kept warm and observed closely for several hours in order to guard against any subsequent respiratory failure. One should not hesitate to repeat the maneuver should respiratory failure recur. The tracheal catheter is not a panacea which will overcome failure of a baby to breathe because of cerebral injury or inchemia, or of congenital anomalies. It is a method, however, that will, if used intelligently, aid in the establishment of regular respiration in infants with atelectasis.

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The Immediate Treatment of the Severely Injured

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GENERAL TRAUMATISM—SHOCK

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General traumatism gives rise to several conditions: Among the most important of which is shock and that is so universally associated with severe injuries that it is well to consider general trauma in the light of the shock which injuries in the several regions produce—not that the shock following injuries from different parts varies in nature but in the severity and rapidity of onset, other things being equal.

Bodily trauma, however, gives rise to conditions other than pure shock though these are often and usually associated with shock. It may be well to consider these for a moment because proper treatment sometimes depends on a nice appreciation of existing conditions. One of these is intra-cranial tension, associated with concussion of the brain and which may or may not be accompanied by shock. The treatment varies in either instance. In increased intra-cranial tension dehydration is indicated to relieve the pressure. If, however, this condition is associated with shock, dehydration is contraindicated because there is already a decrease in the blood volume, due to transudation of blood plasma into the tissue spaces. Consequently the heart is working on blood of increased viscosity and resistance without sufficient volume to maintain blood pressure. Pulse rapidity increases to maintain a normal blood flow. If this vicious cycle is not checked by addition of more fluid the patient may succumb. Intra-cranial tension without shock may be distinguished clinically in the following manner: In these instances there is a gradual fall in the respiratory rate with rising temperature readings. The

reverse is true in shock—the respirations being more rapid than normal while the temperature remains well below normal.

A second condition arising in many severe traumas is hemorrhage and this is not unusually super added to shock and of course contributes to its severity. The effect of shock on hemorrhage is generally favorable, for the lessened efficiency of the heart's action and the prone position of the patient favors blood clotting. However, with reaction from shock occurring increase of bleeding ensues. Since hemorrhage may be associated with shock and increases it or may cause it the differentiation of the two conditions may be extremely difficult, particularly in cases of suspected concealed hemorrhage as occurs in gun shot wounds of the chest and abdomen. Here prompt action may be necessary to save life and yet the surgeon is perplexed and undecided as to whether or not he should interfere. If hemorrhage is the cause of collapse no time should be lost in securing the bleeding vessel but if shock is the dominant factor laparotomy before reaction occurs only adds to the gravity of the case. There are certain features which will usually allow us to determine whether or not hemorrhage is severe and continuing. In shock there is apt to be mental drowsiness and indifference on the part of the patient and he shows little concern about himself and his surroundings, while in hemorrhage there is apt to be restlessness, anxiety or not uncommonly air hunger. In the less acute cases where immediate action is not necessary, repeated blood examinations will show a steady fall in the red blood count and in the color index. This, with a steadily rising pulse and a falling temperature, indicates a progressive shock and taken with the history may mean continued hemorrhage. In the desperate cases in which no time can be lost and the probability of concealed hemorrhage

is great, injection of hot salt solution into the veins will, if acute anemia is present, give rise to immediate improvement but will not be so attended in case of shock.

The most constant condition associated with general bodily trauma is shock, and it has been found to vary in different parts of the body, both in the severity of the collapse produced and the rapidity of its onset. This has been thought to vary with the distance of the injury to the vital centers and also with the amount and character of the nerve supply of the affected parts. As an example injuries to the palmar surface of the tips of the fingers should produce twenty times as much shock as should the same injury to the dorsal surface of the fingers and clinically this is approximately true. Wounds of body cavities or of vital organs are announced by the appearance of shock. It is more frequent in fracture of the thorax and pelvis than of the extremities, and when much shock is present in fracture of the ribs or pelvis, visceral complications are suggested—among these are concussion of the heart, pneumo or hemo thorax, punctured wounds of the lungs and rupture of the intestines or other viscera. Injuries to the testicles and to the larynx, the brain, spinal cord and nerve trunks are known by the severity and suddenness of the shock which they produce. Shock also varies much with age, being much greater in the aged; less so in the young and generally least in those of middle age. Temperament, occupation and general body health bear a not surprising influence on the severity and promptness of shock, other less active variants being nationality, climate, altitude, season of the year and time of the day.

As already intimated shock may come on very quickly or be much delayed. This fact suggests an inquiry into the most obvious sources of shock. There are found to be three types, first mental or psychic shock, which is brought about by fear induced by the realization of an impending catastrophe or by terror produced by the realization or imagination that an injury already received is of serious omen. Under these conditions to-

tal anesthesia occurs and the shock may recur in certain individuals on reenacting the scenes of the tragedy either on his own volition or by others recounting the accident.

The second source of shock lies in injury to nerve centers due to their association with the end organs of peripheral nerves. When they are subjected to mechanical or other forms of physical trauma they give rise to impulses of evil omen, pain, etc., and the constant impact of these impressions arising in the nerve centers exhausts the potential energy of the nerve cells in the centers and consequently produces nerve exhaustion or shock. The number of these evil impulses or noci-associations or their concentration depends on the quality and quantity of the nerve supply of the particular parts injured, and the severity of the shock produced necessarily varies mathematically with the number and amount of nerve tissues exposed. Witness the shock produced by testicular, laryngeal or peritoneal trauma and the almost total lack of shock due to injury of connective tissue fascia, tendons, ligaments, cartilage, muscles, etc.—Tissues with relatively scant nerve supply. The third important factor in the production of shock is hemorrhage, a condition which very obviously, whatever our conception of the nature of shock, depletes the vital forces.

With these facts before us let us consider the rationale of our treatment when presented with a patient who has suffered a severe injury and in whom shock is present or in whom delayed shock may occur. Our first thought is hemorrhage, as acute anemia is a most dangerous condition. If this is present we must make first only the necessary manipulations and measures for controlling the flow of blood, followed by the introduction of more fluid in the form of salt solution or of blood transfusion. This constitutes our reply to the particular factor of hemorrhage and allows us to consider the other sources of shock as we apply to our patient the general treatment for collapse. In the absence of serious hemorrhage or serious physical trauma, psychic shock is suggested. Here local heat,

rest in bed, with a full dose of morphine and atrophine for its soothing and relaxing effects will do much to relieve the patient. Rest and quiet with exclusion of visitors may prevent the occurrence of shock from memory influences. If mechanical interference is necessary it is safe to give ether and proceed, as the blood pressure increases and the general condition improves in this type under general anaesthesia.

The shock due to physical trauma is the most severe and requires prolonged and careful treatment. This trauma may be mechanical, electrical, chemical or thermal and in instances in which much skin area is lost or destroyed the consequent cooling of the body from excess radiation of heat must be considered in our treatment. We must assist in the prevention of additional shock by doing all manipulations with the greatest gentleness whether or not the patient is under general anesthesia and wherever possible large nerve trunks should be blocked with local anesthetic and skin area in the regions involved should be infiltrated. The disturbed circulation should be supported by all means at our command. Mechanically the circulation may be improved by the inverted Fowler position which increases the blood supply to the brain and favors venous return to the heart. The extremities may be bandaged to increase the available blood volume or this may be accomplished by the rubber pneumatic suit of Crile; second medically the disturbed circulation should be supported by adrenalin in salt solution given preferably intravenously, but may, however, be given intraperitoneally, subcutaneously or rectally by the Murphy drip method. Morphine should be given subcutaneously in full doses to secure rest and quiet. Stimulants are contra-indicated as they do more harm than good and the patient should be given rest and quiet, free from intrusions of terrified visitors and relatives and given calm assurance from his attendants.

FRACTURES—EXCEPT FRACTURES OF THE SKULL

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Naturally a paper limited to fifteen minutes cannot minutely detail the

treatment for each and every possible fracture. Nor is it my intention to give an infallible dissertation on ways and means of preventing bad end results. It is my endeavor, however, to refresh your memory on some of the points of treatment, this paper being limited to immediate treatment.

Briefly classified we have simple and compound. Either simple or compound may be complete or incomplete. Complete may be comminuted, transverse, oblique, spiral, impacted or complicated. Incomplete may be greenstick, fissure, crushing. Diagnosis enters into this paper only in so far as treatment depends on an accurate diagnosis. Granted that we have a fracture there are many times complications which, although they do not engage our immediate attention, will sooner or later come to light often to our grief. I should say that the complication will many times require coincident attention with the fracture. A few of the more common of these I will mention: Interposition of muscle, rupture of an important vessel, injury to a nerve and a rupture of or injury to an organ. A ruptured vessel can cause death of the part supplied by it. An injured nerve causes disuse, or partial loss of function. Interposition of muscle can throw us off the track in diagnosis. In the discussion of the treatment therefore, we will keep these points in mind.

In presenting this subject I should like to divide the treatment into two main heads. The immediate treatment of the injured shall I say as an entity, and immediate treatment of the fracture as such. Naturally the two cannot be separated, but they are separated only too often.

Do we not often, when called to see a fracture forget our patient in our zealous endeavor to re-align the fracture? Or do we not sometimes use unnecessary force to elicit crepitus which can increase shock and do much damage to soft parts? This especially we should refrain from doing if the patient is to be transported. If there is any difficulty encountered in making a final diagnosis it is far better to wait until the hospital is reached where all emergencies that may arise can

be properly met. In other words our efforts should be directed toward the patient as a being capable of suffering and remember that it is our duty to relieve suffering and prevent complications.

Let us now suppose we are called to visit a patient with a compound fracture of the tibia and fibula with the possibility of fracture of the femur. We cannot imagine such a condition without great pain and some shock. This case will, of course, belong to the hospital group. Our first duty is to consider the possible end results. To insure good end results we must not delay. If the patient is in shock with a weak pulse, cold clammy sweat he must be stimulated and made comfortable as soon as possible. Unlike cases where relief of pain is harmful, *e.g.* appendicitis, relief of pain is absolutely indicated here. It relieves both physical and mental suffering, thus tending to lessen shock. Right here may I add that a patient's mental condition is not to be reckoned with too lightly. De Tarnowsky in recounting the early experiences of the recent world war, when the morale was good, and contrasting them with the experiences late in 1918, when the mental status was not so good, found that shock was much more prevalent, and much more severe in 1918. If there should be hemorrhage of sufficient amount to be dangerous, the tourniquet may be applied. I mention this to call attention to grave damage done by improper application over a long period of time. In reality the tourniquet is seldom necessary, as the wounds are of the lacerated type and do not as a rule bleed profusely.

We now come to the question of transportation and under this consideration we meet true problems. Prevention of infection and prevention of complications the chief ones.

As we see our cases usually under adverse conditions, it is difficult to properly cleanse a wound then and there. Our efforts here should be limited to removing the clothing in and about the wound painting the edges with iodine, and applying sterile gauze or freshly laundered linen if gauze is not at hand. Immobilization then engages our attention.

Keeping in mind that we have the possibility of a fracture of the femur along with the compound fracture of the leg immobilization is imperative. It would seem that we all know this without being told about it, yet I understand patients have come to *x-ray* with very little attempt at immobilization. This patient could easily convert a simple fracture of the femur with possible apposition into a compound fracture. This might be stretching the point, but the idea is that injury would most certainly arise. Probably the greatest danger lies in not recognizing the gravity of the case. We read and hear much of the Thomas splint following the war. Since traction is desired this is the ideal splint. It can be slipped over the clothing and adjusted. But here we are more theoretical than practical for how many of us have a Thomas splint in such a case. However, in the great majority of cases we do have access to boards, canes, pillows, etc. Dr. David of Chicago suggests that we might use fence rails if nothing else is available. Pillows with or without board splints act as comfortable adjustable padding and as a splint for the leg. A long board extending from the axilla below the sole of the foot acts well as a splint for the femur. Having prepared the patient he should be transported as carefully and as quickly as possible to the hospital.

The time element in the severely injured is of vast importance. Very often an ill placed tourniquet, angulation at site of fracture, and by no means the least a dirty wound changes the progress sheet immensely. Saving an ambulance fee and bouncing a fracture in a rickety pleasure car is a bad investment. Treatment thus far has been limited more or less to the immediate comfort of the patient with a view of preventing further damage to the patient. Let us see what can be done regarding the injury itself specifically.

In the case of simple fractures we apply the cardinal principles of treatment. Firstly, anatomical re-adjustment of the fragments preferably under anesthesia. Secondly, neutralization of muscle pull by immobilization or traction or by both.

Most of our simple fractures treated early will give good end results while delay makes the treatment complicated. Dr. Scudder says: "Early treatment is easy, delayed treatment is difficult and dangerous, late treatment is lamentable." Moynihan says: "The chief risk in surgery comes from delay. Surgery has been made safe for the patient. We must study to make the patient safe for surgery." Meaning, I take it, that delay makes the patient unsafe for surgery. In fractures the damage is done instantly. Nature starts instantly repairing the damage. We either assist or retard nature. Fractures left to go beyond the time when initial treatment would prevent disabling deformities give us the cases where permanent disability is almost as bad as death.

In the case of the compound fracture there are many possible complications which must be visualized in the immediate treatment. Infection must be prevented as far as possible. This does not, however, call for strong devitalizing antiseptics nor carelessly probing into the wound. It is well here to distinguish between fracture by impact and fracture by penetration. In the former the wound carefully washed with ether, after bits of foreign material have been removed, can be closed with interrupted sutures. As an extra precaution a few strands of silk worm gut can be introduced which can be removed in about 48 hours and cultured giving us information as to the advisability of leaving the wound closed or opening it up for drainage.

If the missile has perforated or penetrated the bone the wound is not closed, rather the wound is explored by opening wider and exposing the site of fracture. All devitalized tissue should be cut away and all loose fragments of bone cautiously lifted out. Large bleeding vessels should be tied and the wound washed with ether. The primary immobilization should not interfere with the ability to apply subsequent dressings, on the contrary we cannot neglect the immobilization in our care for the wound. We should conform the one to the other so as to mutually benefit each.

In the case of punctured entrance and

ragged exit wounds it is a good policy to cut away the devitalized tissue cone shaped and thoroughly cleanse the wound with ether. These cases are usually gunshot and the bone will be comminuted with the fragments for the most part at the site of exit. DeTarnowsky recommends exploring the wound from both sides in these cases, as loose fragments or foreign infective material will usually be found at the site of entrance. Here again speed is the key to a good part of success. Delay invites infection because the conditions are ideal for it. The bacteria are planted in a locus minoris resistantiæ. There has been a surprise attack and the body forces cannot mobilize quickly enough to meet the invasion. Many of the bacteria can be removed en masse in the prompt cutting away of devitalized tissue, and many by the removing of blood clots. Some remaining are removed with removal of loose bone and the subsequent washing with ether. If the foregoing is not done quickly the blood and devitalized tissues act as admirable culture media in a place where they are unmolested by the protective forces.

As for dressings of enlarged wounds it has been suggested that an admirable dressing can be made by saturating dressing gauze with liquid paraffin zinc oxide ointment mixture, half and half of each. The gauze so saturated is placed so as to cover the walls of the wound, leaving a central cone in which is placed sterile gauze to absorb the discharges. The thought is good, the idea practical. The opening of wounds by tearing away dressings is conducive to injury and infection. With the paraffin-zinc oxide gauze the discharges penetrate and enter the central cone of plain gauze, this is removed and fresh replaced leaving the paraffin gauze in place. This is removed without difficulty when granulations have formed beneath.

Just a word regarding the *x*-ray. We all recognize in the *x*-ray a great help. We owe it to our patients if a reasonable doubt arises to check our work by a plate. We owe it to ourselves to insure the best possible work to check our efforts and subsequent progress. It is the best

means of preventing damaging deformities and non-unions. Medico-legally we are much better fortified and all parties concerned are more secure if a plate can be exhibited, the one record that cannot tell a lie. Fluoroscopy is mentioned as an adjunct in reduction of simple fractures where it is well to see the fracture during manipulations.

In conclusion I will state briefly the main points I wish to emphasize:

1. Do not forget the patient is capable of suffering—that suffering increases shock and shock can cause death, directly or indirectly.

2. In cases of simple fracture immediate reduction prevents complications.

3. In cases of compound fracture and of simple fracture requiring transportation preparation including careful splinting is of paramount importance.

4. Speed in making a patient comfortable and readjusting dissembled tissues is the key to a good share of success in treating fractures. Delay on the other hand making the cases we dread to meet afterwards.

5. Time in devising non-irritating semi-permanent first dressings is well spent. Continued traumatizing a wound delays repair.

6. Considering all that has been said immediate treatment requires in the operator, training, natural mechanical sense, skill, devoted interest, and last but by no means least, a good conscience.

THE UNCONSCIOUS PATIENT — INCLUDING FRACTURES OF THE SKULL

H. W. KING, M.D.

When one is called to see a patient suddenly stricken with unconsciousness the attendant is at once placed upon his mettle, for upon the accuracy of his diagnosis and good judgment a helpless human life is surely dependent. Of course a good history is of the utmost value if such a history can be obtained, but very often it cannot. As an illustration of the value of history I can readily recall an experience from my early practice. A young woman came to my office much excited and disheveled, carrying a two and a half year old girl in her arms. The child was unconscious and there was

no previous history of illness, the mother had just suddenly come upon the child apparently unconscious. The temperature was 97°, lips a bluish cast, child perfectly relaxed and limp, no distension, catheterized specimen of urine normal. I treated the child with stimulation, heat, enema, etc., and was gratified to see it improve even though I was unable to make a diagnosis. After three or four hours the child was again apparently normal. A few days later an uncle looking for his box of cold tablets and being unable to find them, inquired of the children and was told that baby sister had eaten them.

Let us suppose a history cannot be obtained, there are certain conditions that should be called to mind and I have grouped them as follows:

Group A. Conditions in which there are prodromal signs and symptoms, and coma is usually late.

I. Lesions of the central nervous system

- a. Acute inflammatory.
 1. Suppurative meningitis
 2. Epidemic meningitis
 3. Tubercular meningitis
 4. Acute encephalitis

b. Less acute lesions

1. Brain tumors
2. Cerebral abscess
3. Post-epileptic
4. General paralysis of insane
5. Syphilis of brain

II. Systemic diseases other than vascular

1. Uremia
2. Diabetes
3. Raynaud's disease
4. Myxedema

Group B. Conditions in which coma is early.

I. Head injury

1. Fracture of the skull
Cranio-cerebral injury
2. Concussion

II. Vascular lesions

1. Embolism, cerebral
2. Cerebral hemorrhage
3. Internal hemorrhage
Injury
Visceral accident

III. Acute effect of drugs

1. Alcoholism
2. Opium and morphine

3. Carbon monoxide
4. Carbolic acid
5. Chloral hydrate and other drugs
6. Anesthetics

IV. Extremes of temperature

1. Heat stroke
2. Excessive cold

V. Adams-Stokes syndrome

VI. Sudden nervous shock

VII. Hysterical trance

From a perusal of the above list it would seem that the proper classification of a comatose individual might be difficult. However, a systematic examination soon aids in clearing the diagnosis or at least in pointing toward the line of treatment necessary. One would note at once if there is any evidence of a unilateral paralysis, as unequal pupils, puffing out one cheek more than the other on expiration, one arm or one leg falling more limply than the other, or difference in the tendon reflexes. If there is a unilateral paresis there is certainly a cranial or intracranial lesion, such as hemorrhage, embolism, fracture, tumor, abscess or meningitis.

One would next examine the head for injury, remembering that the injury may have occurred from falling, as in the case of a cerebral hemorrhage. A hurried examination of the body, noting the breath for the odor of alcohol, evidences of phenol poisoning and noting if there are burns about the mouth and tongue as from a caustic, would help differentiate the condition and point the way to the proper treatment.

A record of the axillary and rectal temperature and the blood pressure would aid materially in diagnosis. If we are still in doubt a general physical examination would aid in differentiating a visceral accident or body injury. If still in doubt the patient should then be removed to a place where proper laboratory aids may be available. As, for example, a urinalysis would point out a diabetic coma or uremia; a spinal puncture may discover a meningitis or increased intracranial pressure; and a roentgenogram is invaluable in cases of fractured skull.

Our treatment may now be roughly divided into four groups:

1. Cases in which absolute rest is indicated, as cerebral hemorrhage—or the watchful waiting policy of head injury.

2. Cases in which lavage of the stomach or an antidote is indicated as in carbolic acid or morphine poisoning.

3. Cases in which active medical treatment is indicated, as diabetic coma or uremia.

4. Cases in which immediate trephining is indicated, as fracture of the skull with middle meningeal hemorrhage.

Time forbids taking up in more detail the differential diagnosis of systemic disturbances causing coma, so I must pass on to the important subject of head injury. The term in vogue for severe head injury is fractured skull. This often conveys the wrong impression to the attending physician for it is not the fractured skull per se that causes the symptoms, but the associated lesion, as hemorrhage from a ruptured blood vessel, the resultant brain injury with edema, or the complicating structures the fracture involves, as the sinuses. Therefore a more inclusive term might be cranio-cerebral injury.

The important factor in fractured skulls except depressed fractures, is not the fracture itself but what is underneath it and very often in head injury a linear fracture through which cerebrospinal fluid is escaping is a godsend, as this fracture acts in the same manner as a decompression does by permitting relief of pressure.

Skull fractures may be divided into: 1. Depressed fractures. 2. Linear fractures of the vault. 3. Fractures of the base of the skull, and any of them may be complicated by hemorrhage, cerebral edema, laceration and contusion of the brain, or infection, primary or secondary. Depressed fractures may involve either the outer or inner tables alone or both tables conjointly, although it is comparatively rare to have the inner table alone depressed.

If only the outer table is depressed the part may be treated expectantly. Before going further it is of course understood that the patient in shock is to be treated for his shock before any further treatment is indicated. If a hematoma forms

over a depressed fracture of the outer table aspiration may be attempted and if unsuccessful, incision and evacuation of the clot is indicated. If there is a laceration present infection should be taken for granted, the part should be cleaned up, shaved, scrubbed and an antiseptic applied, and the depressed fragment removed to prevent an osteomyelitis.

When the inner table is depressed with the outer, both tables must be removed regardless of whether an infection has been introduced through a laceration or not; failure to do so may cause localized adhesions, encysted subdural hemorrhage, post traumatic epilepsy or psychoses. In dealing with this type of fracture it is important to determine the presence or absence of cerebral edema and intracranial hemorrhage before operation, since operation upon the depressed site might cause the brain to herniate through the field in the presence of increased intracranial pressure. The diagnosis of cerebral edema rests upon the onset or deepening of coma, repeated ophthalmoscopic examination and, most important of all, recording the intracranial pressure with a spinal manometer upon spinal puncture. To relieve the edema medically one has recourse to concentrated magnesium sulphate per rectum every four hours, or it may be given intravenously; or glucose may be given intravenously although they both possess the disadvantage of all intravenous medication, cause an initial rise of intracranial pressure. Therefore magnesium sulphate per rectum is probably better. Repeated spinal punctures to drain the cerebro-spinal canal may be done every six to twenty-four hours, each time reducing the pressure one-half until it returns to normal. If these measures fail, a subtemporal decompression must be done on one or both sides.

To get back to our classification of types of fractures, the linear fractures of the vault offer a fair prognosis as the fracture allows escape of cerebrospinal fluid and relief of pressure of the cerebral edema. If careful watching and rest in bed, with treatment for cerebral edema is indicated primarily and if this is not

sufficient, subtemporal decompression is indicated.

Fractures of the base may involve the anterior, middle or posterior fossa. Fractures through the anterior fossa often involve the frontal sinus or cribriform plate of the ethmoid and the ethmoidal cells and cause a cerebrospinal rhinorrhea. Doctor Teachnor believes that all anterior fossa fractures involving the frontal sinus should be operated on, since they are so often infected by an ascending nasal infection. The outer wall of the frontal sinus is opened by the eyebrow route, the inner wall removed, the dura sutured and a rubber tube drainage provided from the nasofrontal duct through the incision. Fractures of the posterior fossa are more serious as they cause a rapidly forming medullary compression and edema which ends fatally. Suboccipital decompression should be done before the onset of medullary edema, if the patient is to have a chance to recover. Middle fossa fractures are the most common of the basilar fractures and often cause paralysis of the facial or auditory nerve. Hemorrhage is commonly due to rupture of the middle meningeal artery or a cerebral vessel. No direct treatment is applied to the fracture if a pial vessel or a cerebral vessel is involved. Intracranial hemorrhage may be extra dural, in which case it is usually the middle meningeal artery that is involved, and after proper exposure a ligation is done. Or it may be subdural in which case the meningeal artery, a ruptured pial vessel or a cerebral vessel may be the cause.

Subdural hemorrhage in the acute stage should be demonstrated by lumbar puncture and if it clears on repeated puncture, rest and observation are all that is advisable. However, if it does not clear, cranial exploration is advisable, because chronic subdural hemorrhage brings about cerebral compression causing symptoms weeks or months following, and leading to irreparable damage.

CONCLUSIONS

Small fractures are not fatal in themselves.

Severe head injury has a more favor-

able prognosis if there is a linear fracture of the vault.

Hematoma of the scalp should be evacuated.

Intracranial hemorrhage should be drained by repeated lumbar puncture, or if that fails, by cranial drainage.

Cerebral edema is best treated by dehydration and repeated lumbar puncture and lastly by decompression operation.

Operation is contraindicated by shock or medullary edema.

GUN SHOT INJURIES RECEIVED IN CIVIL LIFE

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A few preliminary remarks may not be out of place before discussing gun shot wounds. They differ in many ways from other injuries. They are produced by projectiles fired by means of explosions from rifles, pistols, shot guns and explosion caps or similar devices.

In character gun shot wounds resemble both punctured, contused and lacerated wounds. Sometimes these wounds are almost identical with punctures, in other cases the wounds resemble contusions, lacerations and crushes. In severity they may be of any degree from a slight contusion to the loss of an entire limb. When made by bullets, the wound of entrance and exit may resemble mere punctures and often furnish no direct evidence of the extent of destruction in the deeper tissue. Often such destruction is extensive and though it can not be seen from without, it may be inferred from the known peculiarities of bullet wounds; such as loss of function, shock and other local and general signs and symptoms.

The gun shot wounds coming under our care are with few exceptions pistol shot wounds fired at rather close range. The most common calibers, 22-32-38 and 45. Shot gun wounds may make many perforations over considerable body area or if close enough may destroy an entire limb by almost severing it. Explosive caps generally cause multiple perforations of irregular shapes, but their penetrating power does not seem to be quite so great and perforations are widely scattered.

We meet with two forms of bullets known as soft nose and steel jacketed.

The soft lead bullets frequently lodge, or are easily turned by bone, tendons, or fascia edges thus making an irregular track. The steel jacketed bullets take a more direct course. It is not so easily thrown off its course. A hard nose bullet easily punctures bone, making only an opening slightly larger than the caliber. This is especially true of the smaller caliber.

Experience shows that in a large proportion of uncomplicated gun shot wounds, conservative treatment gives excellent results. This treatment is simple. The external wounds and surrounding skin is painted with tincture of iodine or other satisfactory antiseptic without previously washing with water. If skin is grimy and oily, it may be cleaned with turpentine, benzine, alcohol, or ether. If gasoline is used, use only plain gas as many of our motor fuels are treated at this time and may not be good if used for this purpose. After wiping dry with a sterile piece of gauze, wound may again be painted with antiseptic and sterile dressing applied. Also, immobilizing splint if necessary. We have standing orders in hospitals that all gun shot wounds of any nature receive antitetanus serum. So long as the bullet wound does not penetrate an important body cavity and is not attended by the signs and symptoms of injury to a large blood vessel or nerve trunk, its lodgement is rarely of much importance. Keep fingers and probes out of bullet wounds, the less the interference the better, unless to control hemorrhage it is not necessary. The bullet can be localized by *x-ray*. After localization such a bullet can be removed under surgical conditions under local anesthesia with little or no risk. Most patients are anxious to be rid of such lodged bullets and in general their wishes may be granted. It is usually wise to cut down upon the bullet directly, irrespective of its track through the tissue.

WOUNDS AND TENDONS

Tendons are not pushed aside as often as thought and sometimes are completely severed. Treatment, of course, is suturing in a surgical manner and perhaps as early as possible is good practice.

Nerves may be wholly or partially divided, crushed to a degree of destroying fibres or function lost; and pain produced by pressure from bullets without much destruction to fibres. Treatment is suturing if the nerve is severed, but prognosis is not favorable.

BLOOD VESSELS

Wounds of blood vessels are perforated or cut. If the main artery of a limb or large artery anywhere is cut, death from bleeding occurs very rapidly, as in the case of Officer Hicks living about 20 minutes after receiving the injury, which severed his right femoral artery high. When seeing this man, my first thought was that the abdominal aorta had been perforated, due to the severity of his condition and point of entrance. After learning what vessel was severed, I wondered how much I would have been criticized if it had been possible to control the hemorrhage and then later amputate the thigh.

The treatment of the wounds of vessels will depend upon whether the bleeding stops spontaneously after rest, pressure, immobilization or continues to occur. If continued bleeding, incision if necessary, and ligation of ends of vessels. The prolonged application of tourniquet is a bad practice. As we find tourniquets used in civil life they do no good, as they are never tight enough and perhaps just as well.

I have been trying to diagnose a gun shot wound of the heart for 15 years, and have had two suspected cases that were alive upon entering the hospital and lived long enough to be operated. First case lived nine hours and was shot through the heart. I did not have enough nerve and moral support to try this case. The second case—at this case we had a fussy police surgeon who appeared on the scene at the wrong time. It is probably just as well, as the man is still alive.

GUN SHOT FRACTURES

Recognition of gun shot fractures of long bones is usually easy. Only incomplete fractures may escape recognition. The details of fractures is best learned by x-ray. Treatment is to follow the rules and principles which guide surgeons in the treatment of fractures in

general. My best results have been obtained by doing an open reduction immediately, if necessary.

WOUNDS OF HEAD

Wounds of the soft parts covering the skull not involving the bone are serious only on account of bleeding. These wounds are treated on general surgical principles. Wounds involving the skull are serious. All bullet wounds involving the skull whether they penetrate or not deserve careful exploration under surgical precaution. It is often discovered that these injuries produce unexpected damage to dura and brain tissue. In some of these cases damage may be repaired by elevators and ronguer forceps. In others, it will be necessary to trephine, the main object in working on skull and brain is to prevent bleeding and infection. In gun shot wounds of the skull, it is surprising the recoveries apparently complete of penetrating wounds of cerebrum with lodgement of bullets.

WOUNDS OF FACE

Wounds of the face may be of any degree of severity, no special rule can be given and general treatment must be modified according to the individual case. In my personal experience, wounds of the mouth are very dangerous, as many die of general sepsis.

WOUNDS OF NECK

Neck wounds may be slight severe or immediately fatal. The large vessels, nerves, trachea and esophagus, spine and spinal cord may be injured. Wounds of the trachea demand immediate tracheotomy. Esophagus wounds demand immediate exposure with repair of the same and open drainage and feeding patient through tube.

LUNGS

The signs and symptoms of injury to lungs, when marked are pain, cough, spitting of blood, friction sounds and other symptoms discovered by examination. External bleeding is rare. It is interesting to know why gun shot wounds of the lungs do not give us more trouble. Most of them get along nicely, perhaps it is due to the blood pressure of the smaller vessels of the lungs being lower. No doubt if the larger vessels are severed we would have many more fatal cases.

Treatment is rest, morphine, dressings to skin. Wounds of the lungs usually remain clean. In our own experience we have not had any bad results.

SPINE

Wounds of the spine may not involve the spinal cord. In those wounds involving the spinal cord the prognosis is bad and operations as a rule are useless. Wounds without cord symptoms heal with conservative treatment. If a bullet presses on the cord, it should be removed without much delay.

ABDOMEN

Wounds of the abdominal viscera should be operated immediately. A patient with a wounded bowel or other organ, or bleeding to death from a hole in mesentery, must be operated at once to save life.

BURNS

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“Burned”—the most horrible word in the language of any nation, from the beginning of time to the present. It sends a shudder over the physician to hear the word, for well he knows the horror; the trouble incurred to those attending, the anxious moments, the unhappy time when dressings have to be changed day after day, the pain and high mortality. Heretofore these cases have been uninteresting and unpleasant for the physician and nurse, because the dressings are tedious, foul smelling, often nauseating and a source of dread to the patient. So the patient is turned over to the interne with these instructions—“Do something for the poor fellow.” The interne is busy and soon the patient becomes a “poor fellow”—he is neglected, improvement is slow and soon he loses those two most important adjuncts in healing of a burn—patience and courage. There is no patient who needs the undivided, painstaking, constant and watchful attention, day in and day out, and whose treatment requires a greater knowledge of medicine in all of its phases, than does the poor unfortunate burned individual.

In this paper only the practical side of burns will be considered. The etiology, pathology, bio-chemistry, mortality and statistics shall not be discussed. How-

ever, I would like to take time enough to give you a classification which seems very instructive, as suggested by Bancroft and Rogers.

First and second degree is familiar to all, but they divide the usual third into a third degree where the epithelium is destroyed but hair follicles are not, and fourth degree, where the hair follicles are destroyed and sub-cutaneous fat is necrosed. Berkows' chart for estimating burned areas should be in the minds of all. It is as follows:

ADULTS	{ Trunk 38 %	Lower extremities 38 %
	{ Head 6 %	Upper extremities 16 %
CHILDREN	{ Trunk 40 %	Upper extremities 16 %
	{ Head, (12 minus age in yrs. plus 6)	Lower extremities, 38 minus (12 minus age in years)

From the times when all conditions were converted into burns and then treated, down to the present, the medical profession has been looking forward to the time when there would be a panacea. In doing so the physiological function of the skin must be considered—namely, sensation, excretion, temperature regulation and respiration. The attempts at this type of treatment have been many and the profession has seen the advent of and forgotten many theories, all of which had more or less merit, striving toward something that would prevent shock, lessen toxicity, produce analgesic properties and seal the denuded area. Blood transfusion, both sanguinous and exsanguinous, also the administration of fluids in the form of normal salts and glucose solutions, endeavoring to dilute the toxins and make them more tolerable, have been fairly successful. The blood is charged with these toxins during the first two to six days, so care must be taken to fortify against them.

The order of administering to the severely burned is as follows. First, a large dose of morphine—Davidson and others suggest at least one-fourth grain to reduce pain and slow the circulation. The heat center seems to be early deranged and there is a rapid loss of body temperature which must be kept up by artificial means, either hot water bottle, inner tubes filled with hot water, hot stones, bricks, irons, etc. Debridement is carried out where needed even if an

ether anesthetic has to be used. Willis suggests debridement in all cases. Trueblood suggests always cleansing the wound by scrubbing, but this is not generally considered good practice. There is always more or less shock and it may be this added trauma that is too much and the patient passes into severe shock when a lighter shock might have been tolerated. It is well to give tetanus anti-toxin, for a few cases of death have been reported in burns. Goldblatt suggests "sterilizing the wound with 5 per cent tincture of iodine." There is no necessity for this and the danger from applying iodine to so absorptive a surface as a denuded area seems evident.

The after treatment of burns can be divided into five groups. 1. Ointments. 2. Linaments. 3. Chemical solutions. 4. Biologicals. 5. Mechanical or physical. Two of the above methods shall be discussed rather fully. The others mentioned just to recall some of your old friends.

The ointment group is a large one and for mild first degree burns is sufficient as the air is kept from the wound and many of the preparations contain analgesic properties, making the patient comfortable. Some of the preparations are carbolated lard or vaseline, butesin picrate, zinc oxide, emolient dressing, gelatin paste plaster, unguentine and the detoxicating dressing, ichthyol and glycerine, as used by the British. This group has always been a general favorite with both the patient and the physician. In my mind, I am not so sure but what as a whole they have done more harm than good in the treatment of burns generally. The toxins have been sealed in and infection has been greater, resulting in a stormy convalescence and extensive scarring with limitation of movement.

A discussion of burns would certainly be incomplete unless the old time linament, carron oil is mentioned. This treatment was at one time more or less popular and was so named because of its origin in the carron iron works of Scotland.

The chemical solutions used in the form of fomentations or baths have played a very important part in lessen-

ing toxic shock, infection and pain. The physiological basis for solutions is good for the dehydration is stopped, toxic protein cleavage products are diluted and their formation greatly impaired, if not completely stopped, when slightly alkaline solutions are used. The British suggest hypertonic solutions to set up osmosis but I do not believe it is well founded.

Some of the solutions used are as follows: Sodium chloride, sodium bicarbonate, aluminum acetate, magnesium sulphate, sodium sulphate, eusol, picric acid and tannic acid.

Tannic acid seems to have more merit than any of the rest because it possesses many of the physiological properties essential to burn treatment. Davidson in 1924, while working on phosphotungstic acid as a protein precipitant, found that tannic acid had the same properties when made up in fresh solution. This treatment has met with wide acclaim and has been nothing less than a godsend to the burned.

His technique is as follows: First, a large dose of morphine; second, the burned area is covered with dry sterile gauze pads which are held in place with sterile bandages; third, the dressings are soaked with a two and one-half per cent solution of fresh tannic acid, (a level teaspoonful of tannic acid to the ounce makes approximately this strength solution). Small areas are inspected after 12, 18 and 24 hours for tanning. All dressings are removed as soon as the light brown color appears. It is well to wet the dressing thoroughly before removing it as it saves further trauma. The wound is then left exposed to air but protected from mechanical injury by a sterile draped cradle heated by electric light bulbs. Fluids are forced to keep up fluid balance, either by mouth, hypodermoclysis, or proctoclysis or intravenous infusion.

Some of the striking features of the tannic acid treatment are as follows: There is a marked analgesic effect, a decrease in the incidence of infection and irregular granulation tissue formation. The coagulated protein crust acts as a splint and epithelial growth is more nor-

mal with less scar formation. Beckman found the hospital days were longer by six days with this treatment. Seeger found that patients lie on the burned area with comfort after the area is tanned and that the membrane prevented the loss of body fluids.

The tannic acid treatment for second and third degree burns as above classified, is a most rational one. In fourth degree burns where there is invariably need for skin grafting, the following biological treatment, as described by Monteith and Clock, in my judgment is the one which should be used. Furthermore, I can see no reason for not using it in second and third degree burns.

The wounded area is bathed freely with normal saline solution which facilitates the removal of devitalized tissue and dialyzes the toxins of the burned area, preventing absorption and toxemia. Normal horse serum is then sprayed from an atomizer or painted on, two to six times daily. The denuded area is covered with rubber dam to protect it from the air and evaporation. The serum clots the plasma, creating a protective film of coagulated tissue plasma, which keeps it free from accumulated toxins and furnishes natural physiological food for the new growing cells. The cresol preservative of the serum acts as a mild antiseptic keeping the wound free from bacterial growth and pus formation. The new tissue growth is rapid, uniform, more normal and with less scar formation.

Druitt in his book in 1860 observed that mechanical and physical aid was beneficial in the treatment of burns. He suggests exposing the wound to the direct rays of the sun for short periods and the placing of a lead plate on the granulating tissue to encourage epithelial growth. Adhesive tape is now used to do the same thing; it retards granulation and stimulates epithelial growth acting as a sort of splint to guide it across the wound. I can see nothing more than this from the much used paraffin treatment in years gone by. Scott suggests the ultra violet ray as a great help in cleansing wounds and covering denuded areas.

CONCLUSION

In conclusion let me state that this paper is not a resume of my own experiences, as the dermatologist has been considered rather unfit to treat burn cases. I have, therefore, endeavored only to give you a review of the literature and to select from it such parts as might be beneficial to the physician and patient.

SUMMARY

1. Burned cases demand our most careful attention and treatment.
2. A new classification seems more informative in describing burns.
3. Any treatment for burns must have a physiological basis.
4. Debridement as a routine procedure is dangerous.
5. Ointments are only beneficial in mild burns.
6. Tannic acid treatment possesses many of the required physiological properties and is easily applied.
7. Normal horse serum has many encouraging properties as a treatment of denuded areas.
8. Adhesive tape and paraffin make splendid splints to guide epithelial growth.

TECHNIQUE OF EMERGENCY LIFE-SAVING ENDEAVORS

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There is nothing in life of a more tragic nature than to have a condition arise which throws man from the heights of well being onto the brink of death in a short interval. On such an occasion there is likely to be much confusion and unless one has some clearly defined methods of treatment at hand and uses them properly there may be unnecessary suffering, even death. Scarcely a day passes but we see and read of methods used in emergencies that should long since have been discarded. You may find it hard to believe that some men continue to revive the newly-born by swinging them through the air by the feet, yet it is done. And how often do we hear of intra cardiac injections of adrenalin being used. Only last week, I read in a daily paper of a pulmotor being used to revive some people of carbon monoxide poisoning. These methods are

not rational and it is my purpose to outline a few of the methods that are accepted as of value.

SHOCK

We have all seen patients simulate this state from many different causes, and it is our belief that it is manifested occasionally in some acute diseases although probably to a lesser extent. For that reason, the term "acute exhaustion" would be less confusing. The most important remedy to keep in mind is heat, and by this is meant blankets, hot water bottles, heating pads, etc. Remove any wet clothing, and if the usual hot water bottles are not plentiful enough, any kind of a bottle may be used. Hot, moist towels, wrung dry and changed often are a quick means of adding heat. One has only to recall the pathology of any of these acute exhaustive states to see the rationale of heat. The temperature is found to be subnormal as is the basic metabolic rate and there is an engorgement of the capillaries with blood, a fall in the blood pressure and a lowering of the exidative forces of the body. Morphine should be given immediately in these cases because it relieves the pain and the anxiety. In my experience, caffeine sodio-benzoate, in doses of 3-7 grains has been found to be of benefit in cases seen early. Phelps of New York, states in the *Annals of Surgery*, Jan., 1930, that it is of no value, nor are any of the commonly used cardio-respiratory stimulants of any proven value, except digitalis intravenously in large doses as recommended by Pardee. The most important means of increasing the blood volume is by transfusion. A careful typing of the blood of the donor and the recipient must be done and syphilis and acute infections should be excluded in the donor for there is danger of transmission. Whether or not citrated blood or whole blood is used is, according to the best of authorities, of little importance; 50 c.c. of two and one-half per cent solution of sodium citrate in 450 c.c. of blood prevents any clotting. The blood may be drawn from a donor into a flask which has been marked and the citrate solution added previously. This is kept warm and may be given by the gravity method or by the closed sys-

tem of Haden, or others. Remember that typing and checking of Wassermann's take time; send patients, relatives and friends to the hospital at once so that they can be prepared without delay. During this period of waiting for donors, glucose solutions, from ten to twenty-five per cent may be given intravenously in quantities from 300-1000 c.c. If these solutions are properly prepared, warmed, and given slowly, there should not be any more reaction than in giving whole blood. Fifty to one-hundred c.c. of fifty per cent glucose may be given for its hypertonic effect in cerebral edema, and is more desirable than hypertonic salt solution because of its food value and less likely to produce reactions. Mistakes are often made in the percentages given and in rate of flow as well as in temperature. Where it is possible, I recommend that you personally supervise at least the starting of this procedure, in dangerous cases. Solutions of acacia and sodium chloride prepared and given by the method described by Huffnan, in the *Journal of the American Medical Association*, November 30, 1929, is of undoubted value, but unless used in institutions where it may be tested on animals for toxicity, it may lead to some severe reactions. In shock or exhaustion due to hemorrhage, normal saline may be given by hypodermoclysis or intravenously with good results, for it aids in restoring the blood volume and helps maintain normal fluid balance. Again, it should be given warm and slowly. Glucose solutions above five per cent given as a hypodermoclysis may produce local necrosis and are advised against. Paul Clough, in his recent monograph on "Diseases of the Blood," states that the consensus of opinion is that unless shock is associated with hemorrhage transfusion is of little value.

INTRA-CARDIAC INJECTIONS

This procedure belongs in the class of spectacular cures of cancer and other widely broadcast newspaper miracles. An editorial in the *Journal of the American Medical Association*, of January 11, 1930, condemns this procedure. Permit me to read an excerpt from this editorial.

"Revival follows, sometimes, perhaps

not because of the treatment, but in spite of it. In such cases, there is indeed danger that serious injury may follow from the treatment that the patient has received. Whether or not the patient suffered afterward from a hemopericardium, or, from a pericardial infection initiated by the hypodermic needle inserted without adequate asepsis, is not usually stated in subsequent reports. The evidence seems conclusive that if the patient revives after such an intra-cardiac injection, he would have revived without it."

Here again the rational treatment is to keep the patient warm, loosen clothing, and apply artificial respiration by the prone pressure method. By this method one produces a ventilation of the lungs and presses blood from abdomen toward the heart, and if there is any recovery possible, it will be obtained. We find instances in the literature where recovery was made after one hour of artificial respiration was resorted to long before lungmotors, pulmotors and intra-cardiac injections were heard of. It is my opinion that we, as medical men, should not play a part in spectacular "miracles" because it only throws the general public into a state of hysteria during such crises.

CARBON MONOXIDE POISONING

This is, more or less, a modern emergency and very few of us escape contact with it for it is becoming very common, due to the great use of the gas engine. The most familiar cases arise from the exhaust in garages, but it is not improbable that many of the unexplained airplane tragedies may be accounted for by asphyxiation from carbon monoxide. An article by Yandell Henderson (*Journal of the American Medical Association*, January 18, 1930) should be reviewed by everyone for two reasons; first, because it will familiarize one with the treatment and care of carbon monoxide poisoning, and second, because, personally, I take exception to his statement that we should leave the immediate treatment of these cases to the emergency squads of the gas company, fire and police department, since these squads are, in general, trained to such procedure. It is my contention that their training is too

general, and, if a physician is to sign the certificate in case a death *should* occur, he should also be equipped to cope with the emergency. It is known that the attraction of hemoglobin for carbon monoxide is more than two hundred times that of oxygen, so that air containing twenty-one per cent oxygen, if mixed with a few hundredths of one per cent carbon monoxide and breathed for a time, the hemoglobin is rapidly combined with the carbon monoxide instead of oxygen. This combination of carbon monoxide, being a loose one, may be broken up by the administration of oxygen. The amount of damage done will thus depend upon the delay in treatment and the concentration of the inhaled gas. The damage is especially felt by the brain, lungs, and heart. Severe headaches, edema of the brain, pneumonia and myocardial collapse may follow. Some of these patients who are severely asphyxiated and improperly treated may become more or less invalids for several years.

The treatment, in these cases, is quite obvious, though pulmotors and hypodermic injections are still resorted to daily. Fresh air is the first essential, taking especial care to keep the patient warm and quiet. Apply the prone pressure method of artificial respiration, if the patient is not breathing. If he is breathing, get him to take full deep breaths of fresh air into the lungs; do not permit him to walk about. When oxygen is available, let him inhale it for short periods. When possible a mixture of carbon dioxide five to seven per cent added to the oxygen is more ideal because carbon dioxide is a respiratory stimulant. After the patient recovers sufficiently, he may be removed to the hospital without danger, if he is kept warm. There one is certain of finding oxygen. Rest in bed and continued warmth for the next few days is essential in prevention of the development of pneumonia.

LUMBAR PUNCTURE

The importance of this procedure deserves particular stress. It is invaluable where the diagnosis is uncertain in the unconscious and of benefit as a therapeutic measure. Prognosis may also be

determined more easily. Those who are not familiar with this procedure should perform it first on a cadaver or a patient under general anesthesia. As the spinal cord terminates at the lower level of the first lumbar vertebra, in the adult, any level below may be used with safety. The interspace between the 3rd and the 4th or 4th and 5th vertebrae are the ones most commonly used. The patient may be placed in a sitting position, rolling himself over a pillow to effect an increase in space between the vertebrae, or he may be left in a reclining position, lying on one side. A line joining the highest points of the iliac crests passes through the spine of the fourth lumbar vertebra. The area used should be sterilized with iodine and 1 c.c. of one per cent novocain, if properly used, will give ample anesthesia. Select a small area below the level of the 4th vertebral spine and about one-half inch to one side for anesthetizing locally. A gold or platinum needle is preferable because there is less danger of either of these breaking if the patient moves. If a steel needle is used, it should first be tried by bending for defects. Each needle should have a strong stilette. With the tip of the left index finger on the 4th vertebral spine, the needle is introduced through the anesthetized area and should be directed inward and upward. One soon learns to differentiate bone resistance and when this is met the needle should be withdrawn and another attempt made. Some difficulty may be encountered in cases of severe rigidity due to muscle spasm, and at times, a general anesthetic is necessary. Some cases of spinal arthritis are extremely difficult to enter, then, other levels may be tried. So called "dry punctures," in most cases, are due to the operator not having entered the canal or not having penetrated the arachnoid membrane. After withdrawing the stilette, if fluid runs from the needle, the pressure should be measured. If the pressure is found to be greatly increased, not more than 2 c.c. should be withdrawn. Many of the high pressures are due to brain tumor and sudden death may result if too rapid a reduction of the fluid is made. For the usual test, 5 to 10 c.c.

of fluid is sufficient and this should be divided into two tubes, for a few blood cells may be found in the first portion due to trauma. After a sufficient amount of fluid has been removed, the needle is withdrawn without replacing the stilette. A small collodion dressing is then applied and the patient is kept in bed without a pillow for from 12 to 14 hours, if his pressure was found to be not much above normal. If the pressure was extremely high, it may be necessary for him to remain in bed for several days. If a patient, after sitting up, complains of headache, nausea, vomiting or giddiness, he should be put to bed, without a pillow, and the foot of his bed elevated. Codein should be given for pain, if necessary. The proper care of the patient is important, for his co-operation may be needed for subsequent punctures.

DROWNING

As a general rule any patient who has been asphyxiated from submerging in water over five minutes is dead. Cases have been reported, however, of recovery after thirty minutes submersion, so one should not give up efforts of resuscitation too soon. I shall summarize the prone pressure method of artificial respiration. Many different types and methods of artificial respiration have been described, these may be reviewed in most any textbook, if one is interested. I refer you to Sajou's *Cyclopedia of Medicine*, Volume 4, for a more descriptive account than we can give of them here.

The prone pressure method does all that any of the other methods can do and it can be done by one person. If two are available, one may hold the tongue out while the other applies the method. Water should be removed from the nose and mouth as quickly as possible and any tight clothing about the neck should be loosened. Turn the patient upon his abdomen and pick him up by the hips to permit water to flow from the lungs. If a coat or a robe is at hand it may be placed beneath the abdomen to elevate the stomach. The head should be turned to one side and the tongue pulled forward. Now stand astride the patient and with the hands over lower ribs make firm pressure forward forcing the air and

water from the lungs and then release pressure allowing lungs to fill. This procedure should be repeated slowly, about twelve to fourteen times per minute until patient begins to breathe. These people should be kept warm and given hot stimulants, coffee being a very good one, may be given in teaspoonful doses for the first hour. Caffeine-sodio-benzoate, in doses of three to seven grains given hypodermically, is an effective heart stimulant.

REVIVING THE NEWLY BORN

If we are careful not to give large doses of morphine and scopolamine close to the time of delivery, I think that there will be less difficulty in getting the babies to breathe spontaneously after birth. Where difficulty is met with, mucus and secretions should be first cleared from the nose, mouth and throat. Then place a piece of sterile gauze over the baby's mouth and begin mouth to mouth breathing at the rate of twelve to fifteen respirations per minute. This is a very practical method and will be found to be very effective. If, however, oxygen and carbon dioxide mixture is available it may be used with good results. Care should be taken in the amount of pressure used in forcing air into the baby's lungs, for danger to the lung cells have been reported from this procedure and for that reason we are partial to the mouth-to-mouth method in artificial respiration in the newly born.

CONCLUSION

We wish to mention again intra-cardiac injections, frequent use of the pulmotor and the many weird methods of artificial respiration in the newly born only to condemn them. We have tried to outline a few of the rational procedures in the treatment of those dangerously ill. We cannot over-emphasize the use of heat in any of these cases. Opiates should be used freely where there is suffering, and a proper appreciation of fluid balance should be had in every case.

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Focal Cerebellar Disease With Case Reports

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Generalized disease of the cerebellum (hereditary cerebellar ataxia) is very rare. Focal disease of the cerebellum (abscess, cyst, or tumor) is on the other hand not uncommon. The latter occurs so often with ear or mastoid disease that the otologist must of necessity be somewhat acquainted with its manifestations. It occurs with sufficient frequency in the general practitioner's run of cases, that even a general understanding of the symptoms and signs is a valuable addition to his diagnostic armamentarium.

Our general knowledge of the various functions of the various parts of the cerebellum and their connections with the cerebrum and spinal cord are far from being complete. And yet localized disease of the cerebellum, as a rule, is perhaps the most easily localized of all focal brain lesions.

Cerebellar disease is easy to diagnose because small lesions usually produce very pronounced symptoms and these symptoms are usually distinctively and definitely "cerebellar" in type. The function of the cerebellum is essentially to synergize muscular action—to co-ordinate opposing groups of muscles, not only to accomplish purposeful motion but to maintain muscle tone and consequent position or posture. Thus all the true signs of cerebellar disease are forms of asynergia in varying degrees.

The cerebellum consists of lobes, each divided into lobules with localization within these subdivisions of the various body parts—head, neck, arm, trunk, leg, occurring in that order from the superior vermis downward to the inferior vermis. The cerebellar pathways in the spinal cord run downward directly from the cerebellum without crossing, so that cerebellar lesions produce symptoms on the same side as the lesion.

Case 1. *Cerebellar Abscess*—referred by Dr. Walter Weidling, Topeka.

The patient is a boy of sixteen, always rather anemic and unusually thin. He began his present illness, with complaining of sore throat on May 27. He was seen a few days later by an otologist who

punctured the ear drum on account of an earache. Two days later a mastoidectomy was done, with apparent smooth recovery, and a return home from the hospital in five days. He was up and about, feeling fairly good. Two weeks after the operation he suddenly began to vomit and complain of acute headache and had a temperature of 102°. This cleared up in a couple of days and a week later he had a similar attack. It was thought he might have meningitis but again the symptoms cleared by evening. He had a third febrile attack on July first, complaining only of headache, prostration, and vomiting. On July third he mentioned to his folks that his left arm seemed wobbly.

Examination on this date showed fundi normal, pupils normal, no definite nystagmus, slight drooping of left side of face, normal articulation, a slight hemiparesis with noticeable though not marked ataxia of left arm and leg with great difficulty in executing rapid alternating or rhythmic movements. The deep reflexes were slightly hyperactive, left more than right. Asthenia and atonia were marked. Lumbar puncture showed normal pressure and slight increase in cells.

A diagnosis of a left sided cerebellar abscess in the superior portion of the cerebellum was made, and operation findings established this diagnosis. Drainage was established and with some minor complications, the patient slowly but steadily improved, returned to high school in September, and now to all appearance is well.

Case 2. *Cerebellar Cyst*—referred by Dr. F. S. Hawes, Russell, Kansas.

A woman aged 23 had complained for six weeks of sudden severe headaches in the top of her head. She had a very unfortunate marriage, had been very unhappy with and mistreated by her husband and the family had attributed the headaches to this cause. She has had a vague history of gait disturbance—she would misjudge the height of steps and stumble, occasionally have a dizzy spell and stagger, but none of her family were impressed by these signs. She had been nauseated on and off for six months

and four weeks before she came to the hospital she began to vomit. For a time it was thought she might be pregnant. She became bed ridden three weeks before admission to the hospital, with almost continuous headaches and unable to keep anything on her stomach. The headaches were so severe that morphine was the only source of relief and even then she would often lie in agony and moan from the pain.

Examination showed her to have a divergent strabismus of the left eye, bilateral choked discs, no nystagmus, no articulation defect, but a bilateral ataxia, affecting both lower and upper extremities. The deep reflexes were moderately increased but approximately equal. She was afebrile.

A diagnosis of a cerebellar tumor was made but thirty-six hours after admission the patient developed a sudden, acute, very severe headache, became comatose in fifteen minutes and died within an hour of the onset of the headache.

An autopsy showed a cyst about 5 cm. in diameter almost in the midline of the cerebellum, filled with a clear yellow fluid, with evidence of a recent hemorrhage. On the ventricle surface of the cyst attached to its walls was a nodular growth about a centimeter in diameter. Microscopic section showed only an organized blood clot and no evidence of neoplasm in any part of the structure.

Case 3. *Cerebellar-pontine angle tumor*—referred by Dr. Alonzo Adams, Leavenworth, Kansas.

The patient, a woman of 45 years, was well until March, 1929, when she developed a severe headache and began to vomit. This ceased after twenty-four hours, to be repeated two weeks later accompanied by a fever. She was in bed on this occasion for nearly a week, with headaches and vomiting, and for several days was quite deaf. About April 20, she first noticed a difficulty in her gait, tending to fall more often to the right, and a numbness in her legs. She had several transitory periods of diplopia. In May she began having difficulty in the purposeful movements of her right hand, making writing almost impossible. In

June she developed a speech defect, noticed chiefly as a "thick tongue" and she has become moody, listless, at times irritable, and noticeably forgetful.

Examination in June, 1929, showed normal optic discs, a fine horizontal nystagmus with quick component to the right, normal pupillary reactions, a diminution of air conduction in the left ear to six seconds and bone conduction in the right ear to five seconds, slight deviation of tongue to right, an unsteady gait, the right side a little more uncertain than the left, a positive Romberg, and very hyperactive deep reflexes, slightly stronger on the right side.

Roentgenogram of skull and ventriculogram were negative, and the blood and spinal fluid were normal, except for a slight increased spinal fluid pressure (170 mm. of water).

Since the examination in June, 1929, this patient has reported at regular intervals. She has been better at times and worse at other times. Particularly is this true of her speech which sometimes is very thick and at other times essentially normal; her writing likewise and the gait disturbance have fluctuated markedly. She was free from headaches much of the time and rarely had vomiting attacks. On the last examination, February 5, 1930, her condition has shown marked progress since first seen. She has developed a more or less continuous right sided head pain, and her hearing is much diminished in both ears. Her vision is failing and there is a suggestive early choked disc on the right side. She complains much of pepleness, and of neuritic pains in the right arm. Her nystagmus remains about the same, the tongue protrudes consistently to the left, the ataxia is more marked, and she has much difficulty in making rapid alternating movements. She shows a much diminished corneal reflex and complains of continuous roaring in both ears, more marked in the right. Her irritability and emotional instability is pronounced.

SYMPTOMS AND SIGNS

These three cases are illustrative of the prominent symptoms and signs of cerebellar disease.

The *subjective symptoms*—in the order

of their frequency follow: 1. *Headache* is almost always present as the chief complaint. It is usually the first symptom to develop. It is usually generalized in its distribution, but may be unilateral, and near-always is a transient, recurring symptom. Ordinarily it is progressive, becoming more frequent and lasting longer, and in most cases it is described as being very intense. 2. *Gastro-intestinal symptoms*, particularly nausea, vomiting, and anorexia, are frequent though not invariably present. 3. *Vertigo* in recurrent attacks with staggering during the attacks is the third most commonly noted subjective complaint. 4. *Diplopia* as a transient symptom is common. It may appear early in the illness, not to appear again, as in case three. 5. *Visual disturbances* other than diplopia occur often particularly failing vision. With intracranial pressure and resulting choked disc, this usually occurs. The patient not infrequently complains of failing vision without objective findings in the fundi, and shows a diminution in the visual acuity on tests. 6. *Tinnitus* with or without deafness occasionally is present, either in one or both ears. This symptom represents involvement of the auditory nerve either directly or by pressure.

The *signs of cerebellar disease* are listed in the order of their frequency.

1. *Gait disturbance* or asynergia of the lower extremities is the most common symptom and is practically constant. It, of course, is not present when the lesion is too small to involve either directly or by pressure, that portion of the cerebellum concerned with the leg. This sign is manifested by a hesitancy and uncertainty of gait, tending to fall toward the afflicted side. The patient complains of difficulty in controlling the movement of the leg and describes the gait as "staggering," "reeling," or "like that of a drunken man."

2. *Ataxia* is the second most frequent finding. The patient notices his clumsiness in attempting to carry out a purposeful movement. The physician can readily demonstrate it by having the patient attempt to touch the nose with the tip of the index finger when the eyes are closed and the arm starting from a

fully extended position. The effort displays a jerky, inco-ordinated motion, often increasing as the nose is approached (intention tremor). It can be demonstrated in the leg by placing the heel of one foot on the patella of the other leg and instructing the patient to follow down the tibia with his heel. The ataxia always occurs on the same side as the lesion.

3. *Nystagmus* is often present, usually in the horizontal plane and the quick component may or may not be toward the side of the lesion. We do not know enough at present to evaluate its significance, particularly as regards its usefulness as an aid in indicating the side of the lesion.

4. *Papilledema* or choking of the optic disc occurs in more than fifty per cent of cases. This sign, however, is frequently a very late one to develop, and represents intracranial pressure. It may be bilateral, homolateral with the cerebellar lesion, or even contralateral to the cerebellar lesion.

5. *Adiadokocinesis* is another form of asynergia, applied to the inability to perform rapidly alternating movements, like supination and pronation of the wrist, extension and flexion of the index or second finger to touch the tip of the thumb. On the afflicted side, the movement is clumsy, not rhythmic or regular.

6. *Cranial nerve lesions* other than nystagmus are not uncommon. *Dysarthria* or speech defect is still another manifestation of the asynergia or lack of co-ordinated muscle movement. *Corneal sensibility* is quite consistently diminished. This sign alone is without much significance as far as pointing to a cerebellar lesion. It occurs frequently in the various psychoneuroses. *Facial weakness* by involvement of the seventh nerve occasionally occurs and *nerve deafness* often occurs.

7. Occasionally *pyramidal tract* signs appear, probably from pressure on them as they pass through the pons. The *reflexes* are not particularly helpful because they vary too much in their exaggeration or diminution and are too inconsistent in their occurrence.

8. *Mental symptoms* are usually present but are not consistent or of a particular type. Emotional disorders in the form of moodiness, emotional fluctuations, crying spells, irritability are most common. With increased intracranial pressure one may find sleep disorders, and this may in a large part account for the mental symptoms.

The acute cases of cerebellar disease do not differ in the essential symptomatology from the chronic form as has been outlined. The majority of all cases are more or less chronic, even cerebellar abscesses. In general, the acute forms are more likely to show in addition to the previously listed symptoms and signs, two others—a more marked *hypotonia* of the muscles and a secondary symptom to this—*asthenia*. Varying degrees of atonia and asthenia are present in all cases but become marked in the acute cases.

SUMMARY

Three cases of focal cerebellar disease are presented—an abscess, a cyst, and a tumor.

The clinical picture of this type of brain disease is often a relatively simple matter for diagnosis. Subjectively the patient complains most frequently of headache, upset stomach with vomiting, dizzy attacks, double vision, often failing vision and occasionally tinnitus. The patient may demonstrate a gait disturbance (asynergia), an ataxia of one or both extremities, a nystagmus, perhaps a choking of the optic discs, difficulty in carrying out rapidly alternating movements, and various cranial nerve lesions—speech defect, facial weakness, corneal insensibility, deafness. Mental symptoms often occur, though rarely to a psychotic stage.

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Wertheim Interposition

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The reason for presenting the Wertheim Interposition again is that it is a procedure of real merit, too little used, in properly selected cases of cystocele and uterine prolapse. The operation is not a very tedious one nor is the technique difficult.

The late Professor Wertheim designed this treatment for these conditions in the II Frauenklinik, Vienna, Austria, and it has been used extensively in both Germany and Austria with almost universal satisfaction.

The large group of patients past the menopause with pronounced cystoceles and the accompanying symptoms and who possess no surgical pathology of the uterus nor cervix, really profit most by this fixation. It may be used in extreme cases of cystocele before the menopause but the fallopian tubes must certainly be carefully severed so that a subsequent pregnancy cannot result.

The cleansing of the operative field is of sufficient importance to warrant comment. The vagina and cervix are prepared in any one of the careful methods now used. In our hands the use of a cleansing douche and one hour before operation injecting 10 to 20 c.c. of three per cent mercurochrome and three per cent iodine in glycerine into the vagina has seemed both wise and satisfactory. Since the peritoneum will be opened, care should be used to see that the areas are properly cleansed. The cervix is then grasped with a vulsellum as near the external orifice as possible to allow moderate traction without tearing.

For clarity the operation may be divided into seven steps as follows:

First, grasping the vulsellum with moderate traction a circular incision is made half way around the anterior cervix a little below the attachment of the bladder to the portio, usually eight or ten millimeters above the margin of the lip and through the mucosa.

Second, the longitudinal incision through the vaginal mucosa extending from one centimeter below the external urethral orifice down over the protruding cystocele to incision number one.

Third, the two triangular flaps of mucosa thus formed are dissected loose from the bladder wall sufficiently to allow the bladder to be replaced entirely and alone. Bladder replacement is the only test of the amount of this dissection since redundant mucosa may be later removed.

Fourth, a second circular incision parallel to incision number one and five to six millimeters below it is made again half way around the anterior cervix leaving a circular band of cervical tissue. Under this band the bladder is now dissected off of the cervix. When this dissection is difficult it is best done laterally first as the adhesions are less dense and then working mesialward from both sides.

Thus far it may be seen that the bladder has been freed both above, from the mucosa and below, from the cervix and uterus. A serious accident of course would be entrance into the bladder and this is a constant danger. There is, however, the definite line of cleavage and while we prefer sharp dissection most of it may be done with blunt dissection or a combination of both as the surgeon desires. At this point a retractor, preferably a trowel type, is slipped under the cervical band and bladder elevating them, preparatory to the next step.

Fifth, the peritoneum is now opened anterior to the fundus. We grasp the peritoneum with a small calibre long handled forcep and elevating it off of the fundus cut it with long handled scissors between the forceps and the body of the uterus. Then either with hooks or the vulselli one over the other the fundus is drawn down under the cervical band and a double suture of chromic No. 2 placed through the cervical band made by incisions and out again through the band where it is firmly tied.

Sixth, perhaps the most important suture of all is now placed through the mucosa of the triangular flaps as close to the urethral orifice as needed, about one centimeter, and passing also through the uterine fundus, then out through vaginal mucosa of opposite side. The adhesions which will be formed here are ideal for holding the uterus in its position to the urethra to prevent subsequent urethrocele. The triangular mucous flaps are now trimmed to fit and closed leaving the suture line the shape of an inverted T.

The cervical band is extremely important for it stretches readily to accommodate to its position over the fundus and

with its vesico uterine attachment still intact it serves as the best possible anchor for the most redundant part of the bladder.

Seventh, a perineorrhaphy is always needed in these women and is highly essential for the permanent relief of their symptoms by giving added support to the uterus in its new position.

In our series of ten cases in the past two years no infection has resulted and the wounds healed easily. We have had the patients catheterized for the first forty-eight hours and only two have needed more catheterization, one for twelve hours and one for eighteen additional hours. Two case reports are given as typical of the series, more would be superfluous.

Case 1. Mrs. G., age 51, married, housewife. Chief complaint: Pain in back which has grown progressively worse. Family history essentially negative. Past history: Illnesses were confined to the exanthemata, none of which were severe. Menstrual history: Began menstruating at the age of fourteen, normally and regularly and continued so until the age of forty-eight when she stopped menstruating gradually. She had two healthy children—both are living and well. Three miscarriages from unknown causes. Physical findings: Pulse 70. Temp. 98.6°. Wt. 150. Ht. 68 in. BP—S. 135 D. 80. Mouth: Several suspicious teeth. Throat: Tonsils are not enlarged and are smooth. Eyes: One of them seems to hold a cataract. Pupils react to light. Neck: Thyroid not palpable. Chest: Respiratory note is clear and distinct over all parts of both lungs. Heart: Tones clear and distinct and no murmurs were heard. Abdomen: Liver dullness normal. Some tenderness over gall bladder region and on careful inquiry no gall stone attack has ever existed. The abdomen is somewhat thick and slightly ponderous. No masses could be felt and no definite areas of tenderness aside from the gall bladder region.

Vaginal examination: A lacerated perineum of second degree which has apparently never been repaired. A cystocele the size of a grapefruit covered with smooth stretched but irritated mucosa

and a procedentia. The cervix is also very irritated and exuding a mucopurulent discharge. Rectum: There are a few small hemorrhoids. Reflexes: Equal.

Laboratory findings: Erythrocytes, 4,400,000. Leucocytes, 5,200. Urine negative. Wassermann negative.

Pathological findings: The pathology centers chiefly about the female structure and we find a large cystocele, procedentia, the uterus itself being quite normal except for an irritated cervix which we would expect from its position.

Diagnosis: Cystocele, procedentia, perineal laceration.

Treatment: On September 13, 1927, a Wertheim interposition as above described was performed. There were two noteworthy features of the operation—first, that the cystocele was so large that after the mucosa was dissected up off of the bladder there was so much excess tissue that half of the flaps were resected. This resection is always variable and in accordance with the need. The other occurrence was that the rectum was accidentally opened about four cm. above the anus while elevating the vaginal mucosa for the perineorrhaphy, completed and a small drain left in the rectum to avoid fecal pressure. This was the only difficulty in any of the cases and occasioned much trepidation as to the outcome. We report this case because it is very typical of the others and because of this unfortunate accident. The result was very reassuring. Union was perfect and on October third the patient left the hospital in excellent condition. September 5, 1928, I talked to her personally at her home. Find that she is doing all her own work without symptoms and is feeling wonderfully well in general. Further report October, 1929—patient's condition remains well except a cataract which has obstructed her vision.

Case 2. Mrs. J., age 47, married. Presented herself for examination and treatment with the chief complaint of pain in the small of back and head and states that she is easily fatigued. Her past history revealed the usual childhood diseases with throat trouble and persistent constipation. Her menstrual life was uneventful, beginning to flow at the age of

twelve with no unusual distress. The duration of the flow was the usual five days and menopause occurred at the age of forty-five, likewise uneventful. She has had six children. One died at the age of five weeks and there were two miscarriages in the latter part of her child bearing period from unknown causes. Five children are living and well. The first pregnancy was complicated by the distressing persistency of nausea and vomiting and what we think to have been a high forceps delivery with a third degree laceration of the perineum. Subsequent pregnancies were therefore hazardous.

The physical examination eliminating all but the pathological features revealed a torn and relaxed perineum, a cystocele the size of a lemon and a markedly prolapsed uterus which was also retroflexed. There was a slight systolic murmur audible over the aortic area. An area over part of the right lung along the vertebral border of the scapula revealed subcrepitant rales. The remainder of the lung fields were clear. Pulse was 98, full and regular. Resp. 21. Temp. 99. Weight 125 lbs. Height 62.5 inches. Blood pressure one hundred and fifty over eighty. We concluded that her symptoms resulted from the abnormalities in her pelvis and since there was no pathology of uterus we performed a Wertheim interposition. She left the hospital in thirteen days in good condition and is now enjoying excellent health and reports doing her own housework without the distressing backache, headache and fatigue.

COMPLICATIONS

First, if a large hematoma should form on the bladder when the mucosa was elevated it would need to be released. This has not occurred in our series but others have reported some difficulty.

Second, there have been cases reported which showed a tendency toward temporary atony of the bladder with retention of urine. In these cases catheterization would need to be continued until function returned.

Third, infection could, of course, destroy the apposition of tissue desired and could even produce peritonitis.

Fourth, under complications should be

mentioned the one accident which might occur following the operation. If there should develop in the uterus a fibroid or a malignancy, serious consequences would result. We feel that the danger is much less great in women past the menopause and we carefully examine the uterus both before and during the operation to be sure no evidence of pathology is present.

Fifth, this fixation when done in young women produces some dysmenorrhea. One case thirty-two years old operated three and a half years ago says that her menstrual pains while worse for a year following her operation are better now than before and she expresses great satisfaction over the result.

Sixth, if there is ever a recurrence of the cystocele it is because the technique of step number five is at fault in not placing the mucous band far enough back over the fundus with the first suture.

Seventh, the objection may be raised that the burying of a mucous band is poor surgery because of its secretive power and that it will continue to cause trouble. Our answer to this is that it does not occur and in no case has trouble resulted nor are we able to find evidence of trouble in the records of other operators.

I wish to review briefly some of the writings of men of wide experience who have used the interposition operation.

Certainly the first English article on this subject was that written by T. J. Watkins of Chicago in 1899, who reported three cases without the use of the cervical band and he advised this procedure only after menopause.

Dr. Leo Brady, Baltimore, Md., reported fifty-six cases in 1909 in an article entitled "Results with Watkins Interposition operation in Treatment of Prolapsus Uteri." He kept careful watch of practically all of these cases post-operatively and reported progress varying in lengths from six months to sixteen years. He reports two questionable results due to cystitis but no return of symptoms for which operation was performed. Forty-eight of this series were re-examined with the report that forty-five had complete relief of symptoms

without return. No report is given of the remaining three cases.

F. W. Johnson, M.D., Gynecologist in Chief of Carney Hospital, Boston, Mass., reported the end results in eighty-nine cases between ages twenty-one and sixty-nine. There were forty-six between ages fifty and sixty and thirty between forty and fifty. Letters were received from sixty-eight of these revealing that fifty-four had been wholly relieved of the symptoms which had brought them to the hospital. No "falling of parts" and there was general improvement in health.

I quote his comment—"This certainly is gratifying as I know of no other operation for prolapsed uteri and cystocele attended with almost no danger and no shock that gives as good end results."

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Old Remedies and New

RALPH H. MAJOR, M. D., Kansas City, Mo

Presidential address, Medical Society of the Missouri Valley, September 26, 1929, at Iowa City, Iowa.

A prominent divine recently said that the Bible is a book that nobody reads, that, like an heirloom, the relic of an older generation resting in peace and dust upon some rarely disturbed book shelf, it is consulted as a guide to conduct about as often as a Godey's fashion plate of grandmother's time is consulted by the modern well dressed woman.

If, however, some physician possessed of more than average intellectual curiosity should take down the old book and turn through its pages, he would find these words written about twenty-two hundred years ago, "One generation passeth away and another generation cometh but the earth abideth forever. . . . There is no remembrance of former things, neither shall there be any remembrance of things that are to come with those that shall come after."

I wish this evening to discuss some things in medicine of a certain value, of

which there is little remembrance, and others which though long forgotten have been revived and bear the stamp of modern approval.

Many other passages in the Book of Ecclesiastes aside from those quoted above will seem particularly appropriate to the physician who thinks over the history of remedies. Every physician who has practiced medicine for a few years recalls the enthusiastic triumphal entry of certain therapeutic measures and their subsequent silent, almost stealthy exit. Occasionally, however, after a stealthy withdrawal, one returns with more acclaim than ever, the second time to remain.

Digitalis has a history somewhat of this type. You will recall how William Withering heard of an old woman in Shropshire who cured dropsy by a tea made of many herbs and how he finally demonstrated that its active ingredient was foxglove. Withering laid down quite accurately the indications for treatment and dosage, and advised continuance of the medicine "until the urine flows, or sickness or purging takes place." Yet so eminent a physician as Lettsom bitterly opposed the use of digitalis because eight patients whom he had treated with it died. It was gradually more and more neglected and then almost forgotten. In our century, interest in it revived and, following the pharmacological and clinical work first of Schmiedeberg and Traube and later of Mackenzie and Cushny, the use of digitalis has returned.

What caused this neglect of digitalis for so long? In the first place it was probably due to an imperfect conception of pathology. Digitalis was introduced as a remedy for dropsy and dropsy at the time of Withering, had a different meaning from that of today. Richard Mead who was carrying the gold headed cane and at the zenith of his career while Withering was a small lad, tells us in his "Medical Precepts and Cautions" that there are three species of dropsy—anasarka, tympany and ascites. "The tympany," he says, "is of more sorts than one. Sometimes the confined vapor bloats up the abdomen, which gives a hollow sound upon being struck. And

that vapor is an exhalation from some mortified viscus, and therefore when let out, it is always extremely foetid."

Mead also in discussing ascites tells us of a good old lady who had ascites and who was so much improved by tapping that "for the information of posterity, ordered by her will, that the following English inscription should be engraved on her monument.

Here lies Dame Mary Page
Relict of Sir Gregory Page, Baronet.

She departed this life March IV
MDCCLXXVIII

In the LVI year of her age.

In LXVII months she was tapped LXVI
times

Had taken away CCXL gallons of water

Without ever repining at her case,

Or ever fearing this operation.

This monument is now to be seen in
Bunhill Fields.

I can imagine some sceptical physician of Withering's time giving a few doses of digitalis to some patient suffering from dropsy due to a mortified viscus or to some elderly lady who had a few gallons of water in her abdomen and then saying, "shucks, the stuff is no good."

Mead also tells us that "there is no species of dropsy worse than that of the ovaries in women" and Withering, we are informed, was much disappointed to find that "cerebral dropsy" (or hydrocephalus) and "ovarian dropsy" (cystic disease of the ovary) did not yield to digitalis.

But even after pathological anatomy had differentiated the different types of dropsy and the pharmacologists had demonstrated that digitalis produced certain definite effects upon the heart, the clinician was still timorous and continued administering digitalis in drop doses when he should have been giving it by the teaspoonful. I can recall as an interne how some of the younger members of the staff were in consternation when they learned the nurse had given a patient a drachm of the tincture of digitalis when ten drops had been ordered!

How much progress would have been made in digitalis therapy if the physician had looked up old Withering's original directions to give digitalis "until the

urine flows, or sickness or purging takes place." In investigating the remedy of the old woman in Shropshire, Withering taught us another lesson, one taught by Hippocrates twenty-three hundred years before when he advised physicians "to inquire even of the lower class of people, if they know anything useful for the cure of diseases."

The story of ephedrine may be familiar to all. A Chinese herb, Ma Huang has been in use among the natives of China as a remedy, perhaps better designated a tonic. This drug was found by the pharmacologists to have a mydriatic effect and its employment in ophthalmology advocated. The ophthalmologists, however, found it less satisfactory for this purpose than some of the newer cocaine derivatives and it sank into oblivion. Only a few years ago, Chen, impressed by certain similarities in its action to that of adrenalin, studied its effects upon the circulation and pointed out that it relaxed bronchial musculature and also produced a marked and well sustained rise in blood-pressure. We all know with what success it has been employed in asthma, in hay-fever, and in certain cases of arterial hypertension. We can also understand how, in China, where low blood-pressure is very prevalent, the drug has been used for centuries for "that tired feeling."

The story of quinine derivatives is but another variation of this same theme. Quinine was used by certain physicians of the old school as a heart tonic, particularly in infections. These physicians who were keen clinical observers, were very positive that they obtained good results with the drug. Their claims, however, were disputed by the pharmacologists who were more interested in its effects upon the body temperature. The text-book of pharmacology that I used as a student stated that quinine given by stomach has comparatively little effect on the heart and blood pressure.

In 1919, however, ten years ago, Frey and von Bergmann, working with a quinine derivative, quinidine, found that it had a very marked effect in auricular fibrillation, slowing the pulse and in many cases producing a complete disappear-

ance of the fibrillation. These results were soon confirmed by Hoffman and, the following year, Pezzi and Clerc reported favorable results in auricular fibrillation, paroxysmal tachycardia and extra-systoles. Today, quinidine is a valued and respected member of every physician's drug armentarium, and we are ready to believe the old-time doctor's insistence that quinine did exert a favorable effect upon the heart action of certain of his patients.

These examples of digitalis, ephedrine and quinidine, all belong to fairly modern history, and their use is now so widespread, their therapeutic effects so definite that they are now neither opposed nor neglected. Certain other older remedies, although less spectacular in their results, have an equally interesting story. Many of these remedies are now rarely if ever employed because we have far better therapeutic procedures at our command. Others have had at one time an universal vogue but with time have seen themselves gradually more and more neglected until they have almost disappeared from practice, although at times, even now, they are employed with telling effect.

Adolph Kussmaul in his "Jugenderinnerungen," a book that I think every physician would enjoy reading, describes some of these old remedies which he as a young physician saw much employed and which as an old man he saw vanish from the list of recommended procedures. Kussmaul lived from 1822 to 1902, one of the most interesting epochs in all history. He saw, as he relates, during his life time, the introduction of the steam railway, the discovery of telegraphy, the incandescent light bulb, the phonograph and, in medicine, the beginning of anesthesia, of antisepsis, the discovery of infectious agents in disease and the introduction of the *x*-rays. At the close of his life he wrote his experiences covering eighty years and some of the interesting chapters describe his experiences with vomiting, bleeding and purging as therapeutic procedures.

One hundred years ago, emetics were a favorite mode of treating a variety of disorders. It had the sanction of ages.

The old Romans, we recall, had extensive establishments called "vomitoria," to which the nobility of that day, who were such gluttons in food and drink, repaired to have their gastritis treated. And this disgusting practice initiated by the Romans was followed for ages. Benvenuto Cellinia relates in his autobiography that while he was in prison, the Cardinal of Ferrara went to the Pope to ask for his release and chose a certain evening to dine with the Pope because his Holiness "was accustomed to drink freely once a week, and went indeed to vomit after his indulgence." Cellini, recounting the success of this stratagem, tells how the Cardinal begged for him, and "the Pope laughed aloud; he felt the moment for his vomit was at hand; the excessive quantity of wine which he had drunk was also operating; so he said: 'On the spot, this instant, you shall take him to your house'."

It is not surprising then that a method of treatment initiated by the Roman emperors and followed by Popes should have been sanctioned by physicians. The two great drugs used as emetics were tartar emetic, which cured Louis XVI of a dangerous illness in 1657, and ipecac, which appeared in Paris as a secret remedy—the secret being purchased by the same King for 20,000 francs in 1688. From this time, they enjoyed a great reputation among the medical profession.

Kussmaul described several personal experiences with this rather heroic therapeutic procedure. On one occasion, while a doctor at Heidelberg, he suffered from an obstinate gastritis which lasted for several days. He could not bring himself to take an emetic and tried fasting with no results. "Finally," he says, "I took this well-tried remedy in the early morning hours with the usual Vesuvian-like eruption of large amounts of bile. Then I sank into a deep slumber. In the afternoon I went up to the Castle and ate with a marvelous appetite two delicious veal cutlets with roasted potatoes, and a bottle of Munchner beer tasted fine too. My recovery was complete."

On another occasion Kussmaul suffered from an acute bronchitis which, instead of clearing up promptly, grew

worse and worse. One day, to his great anxiety, he began to cough up bronchial casts with branches and dendrites. He now became greatly alarmed for he feared the development of a chronic incurable bronchitis. He took a powerful emetic and to his great delight, promptly stopped coughing up bronchial casts, and after expectorating a small amount of mucus for a few days, was completely cured.

Of course, such experiences, interesting as they are, do not impel us to any widespread use of this time-honored remedy. The new science of pathology, just rising in the middle of the nineteenth century, showed that in many cases of so-called gastritis, the symptoms were due to a gastric ulcer. The doctors quickly took the hint and saw the danger of producing such a Vesuvian-like eruption in an ulcerated stomach. Emetics rapidly fell into the discard. Kussmaul himself dealt them a death blow when he introduced the stomach tube into the practice of medicine. We can now empty the stomach without resorting to the measures used by our medical forefathers. Still emetics have a limited field in medicine and a teaspoonful of ipecac will still produce wonders in a child suffering from spasmodic croup. They are also true life-savers when administered to patients who have taken poison.

Bleeding was, as we all know, for centuries one of the sheet anchors of the medical profession. Moliere, the great French dramatist, was no friend of the medical profession and in five of his comedies directed shafts of biting witticism and stinging sarcasm at the doctors of his time. His shafts, incidentally, judging by the response he provoked, must have hit their mark. Perhaps his best known satire is his comedy "Le malade imaginaire" (the imaginary sick man). Here he portrays the examination of a candidate who wishes to enter the medical profession. The whole conversation is in verse and instead of French a sort of mock or mongrel Latin is used, since Latin at that time was the language of the learned professions.

The first Doctor asks in his mock Latin: "What is the cause and reason that opium makes one sleep?"

"Because," answers the candidate, "Because it has a soporific quality."

"Well answered," comes the chorus, "He is worthy of entering our medical profession."

Then the Second Doctor asks him what remedies to use in dropsy.

The Candidate answers:

"Clisterium donare (give an enema);
"Postea seignare" (after that bleed);
"Ensuitta purgare" (then purge).

Again we have the chorus, "Bene, bene, bene, bene responderere" (well, well, well, well answered).

The Third Doctor and the Fourth Doctor ask him respectively what to do for asthma and for headaches and fever. The candidate still answers blithely, "Clisterium donare, postea seignare, ensuitta purgare." Now, the Fourth Doctor asks him a poser, "But what if he doesn't get better?"

Then said the Candidate, "Reseignare, repurgare et reclisterisare" (re-bleed, re-purge and re-clyster).

The President then, after making him swear to hold in all consultations the opinion of the ancients for better or for worse, and never to use any remedies except those of the Medical Faculty, makes him a doctor, giving him the "right and power to drug, purge, bleed, stick, trim, cut and to slay with impunity throughout the whole world."

Yes, Dr. Garrison is right when he says in his History of Medicine that "Moliere had no use whatever for the medical profession." But it took more than Moliere's jibes to make the physicians give up their clysters, purges and bloodletting. Guy Patin, a contemporary of Moliere and Dean of the Paris Medical Faculty, was a great advocate of blood-letting. He bled his wife twelve times for a chest trouble, his son twenty times for a continued fever, himself seven times for a cold in the head and bled two of his friends thirty-six and sixty-four times respectively!

Later on, leeches were partially substituted for the scalpel and as late as the year of 1833, 41,500,000 leeches were imported into France and added to the indigenous supply. Some, however, still preferred the scalpel and in many homes

there were so-called bleeding calendars showing the human body with its veins and directions regarding the veins to be opened at certain times of the year.

Skoda, the great Viennese physician, dealt both bleeding and emetics the hardest blow they had ever received. It may be recalled that while he was practising in Vienna, a conflict raged between two schools, one of which treated pneumonia by blood-letting, the other which treated it with tartar emetic. Skoda said publicly that neither method was of any value. To prove his point, he divided his pneumonia patients into three groups, one was treated with bleeding, the second group was treated with tartar emetic and the third group received no medication at all. At the end of several months observation, he showed that the group which received no medication showed the lowest mortality.

Skoda is often held up as a great therapeutic nihilist and we recall that after he had spent hours examining a patient and made his diagnosis, when then asked about the treatment, he often answered, "Ja, das ist einerlei", (that's all the same). True, he was a nihilist, a tearer-down, but at his time it was necessary to tear away a lot of rubble and rubbish to make way for someone else to lay a solid structure.

But even after Skoda's experiment, the laity still clung rather tenaciously to the old practice of blood-letting. Kussmaul tells us that in the sixties the peasants in Baden would take hot baths to bring the blood to the surface, then scarify the skin and open up a vein to let the bad blood out. Following this, they completed the cure by eating a hearty meal and drinking lots of wine to fill up the empty vessels.

Those of the present generation cannot recall the spring blood-letting which our fore-fathers enjoyed, yet many of us recall the annual spring dose of molasses and sulphur to thin out the blood that had become thick and stagnant during the cold winter months. Obviously a survival of this ancient practice of blood-letting.

Yet even today, blood-letting is often indicated. Osler stated in the first edi-

tion of his "Practice" that, "in cases of dilatation, from whatever cause. . . . when signs of venous engorgement are marked and when there is orthopnoea and cyanosis, the abstraction of from twenty to thirty ounces of blood is indicated. This is the occasion in which timely venesection may save a patient's life. . . . It is done much better early than late. I have on several occasions regretted its postponement." The last edition of his text-book carries the same advice, advice which I believe is not followed often enough. Possibly we are still unconsciously smarting under Van Helmont's reproach that "a bloody Moloch presides in the chair of medicine."

The history of purgatives dates back to the dawn of medicine. The papyrus Ebers, an ancient Egyptian medical treatise compiled in 1550 B. C., contains a large number of purgative prescriptions, some of which contain figs, aloes and castor oil. This venerable medical treatise was compiled about the time that Abraham left Ur of the Chaldeas to found the Hebrew nation, three hundred years before the time of Moses, five hundred years before Homer and the Iliad, one thousand years before the birth of Hippocrates!

Every succeeding medical writer added new purgatives to the pharmacopoea and the practice reached its height during the middle ages when the old saying arose, "qui bene purgat, bene curat" (who purges well, cures well). Many acquired both fame and fortune through their pills. Lady Webster is preserved to posterity through her after-dinner pills. I have the same thought as my friend Clendenning, who says, "I have no idea who Lady Webster was, but the mention of her name brings to my imagination a vision of her in the baronial castle giving endless dinners and dispensing endless pills to cowed curates and squires, with the benevolent reputation of a strong-minded dowager who has suddenly, in mid-age, become intensely interested in the large intestine."

In more recent times, Beecham's pills brought to their owner not fortune alone but a place among Britain's elect as Sir Joseph Beecham, Bart. I recall that

when the originator of the slogan, "a shilling a box, worth a guinea", was elevated to the nobility, the physicians of Great Britain were filled with wrath. The music-loving physician may, however, take some comfort in the fact that Sir Joseph's son has devoted much of his wealth to the maintenance of the Beecham Symphony Orchestra. This combination of pills and symphonic music suggests a dramatic combination to which Moliere could do adequate justice.

Golf, tennis, fox-trotting, agar-agar, mineral oils and various other agents have, however, gradually undermined the renown of purgative pills, and the various spas with their laxative waters have completed the rout. Still there is nothing like calomel for urticarial attacks and cathartic pills plus salts for water-logged heart cases. We rejoice in the passing of purgatives but there are times when we do not wish them to pass beyond recall.

These old experiences with remedies are part of the evolution of medicine, part of our medical history. We discuss them with interest, we do not apologize for them. They belong to their time. If the numbers of other learned professions reproach us with Molier's "Clisterium donare, postea seignare, ensuitta purgare", we recall to our brethren of the cloth that this was the age when heretics and witches were burned at the stake, point out to our legal friends that this was the age of condemnation without trial and of "lettres de cachet", and show our business associates that the leading men of business at that time were the robber barons.

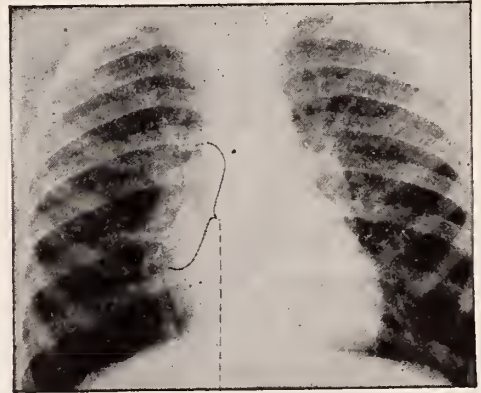
—R—

TUBERCULOSIS ABSTRACTS

Current medical literature reflects a widespread interest in childhood tuberculosis. Practitioners are realizing the importance of recognizing the disease in its early stages while it is yet possible to curb its insidious extension. "Tuberculosis in Children" by J. A. Myers, which has just issued from the press, limns a clear and homogeneous picture of this complex subject. It describes both the childhood type and the adult type of pulmonary tuberculosis as well as non-

pulmonary tuberculosis in children. Long experience as chief of staff of Lymanhurst, in Minneapolis, America's first school of its kind for tuberculous children, gives perspective to Dr. Myers' observations and probably accounts also for those rare sparks of human sympathy which pervade the book, from which the following briefs have been abstracted.

That pulmonary tuberculosis as commonly seen in the adult is preceded by a developmental stage, vaguely designated as the "pre-tuberculous stage," which is more or less concealed or latent, has long been appreciated. Confusion has arisen out of such synonymous terms as infantile, juvenile, tracheobronchial, hilum,



Tuberculosis lesions of the childhood type. The mother of this child died a few months after the picture was taken.

primary complex, Gohn's tubercle, employed by various writers to designate this stage. This confusion is largely dissipated by the definition adopted by the American Sanatorium Association in 1929, and to which the author subscribes; namely, "Childhood type of tuberculosis is the term used to describe the diffuse and focal lesions in the lung and adjacent tracheobronchial nodes that result from a first infection of the pulmonary tissue with the tubercle bacillus." Roughly, the distinguishing feature between the childhood type and the adult type of pulmonary tuberculosis is that the former represents the reactions of the bacillus on virgin or non-sensitized soil and is characterized by cell proliferation, while the latter is in the nature of a rein-

fection on sensitized soil and tends toward destruction of tissue.

WIDE VARIETY OF LESIONS

How the body will withstand the initial infection is determined largely by the dosage of the bacillus and, to some extent, by anatomical differences dependent upon the age of the individual. The resulting pathology may vary widely from a rapidly progressive, disseminated, miliary involvement to a single, small, inconspicuous nodule. A rather typical or common form seen in children of the school age is that in which the initial lesion may appear anywhere in the lung but most commonly at the periphery, followed quickly by an involvement of the lymph nodes draining the infected area. Coincident with this first encounter of the body cells with the tubercle bacillus, the entire body becomes sensitized or allergic. The primary lesion may be so small as to escape detection by the *x*-ray. The lymph nodes which have become enlarged, later caseous, and then calcified, cast definite shadows on the *x*-ray film.

SYMPTOMS AND PHYSICAL SIGNS

The diagnosis of childhood type of tuberculosis is not complete until the extent of the involvement and its progress have been determined. A history of exposure to tuberculosis from father or mother or from a close associate is of great significance. There are no characteristic symptoms; the child may or may not be underweight, he may show signs of fatigue and occasionally exhibit a rise of temperature of a degree or two. But even these vague symptoms may be absent. Similarly, physical signs are either absent or untrustworthy, inasmuch as the pathology in early cases is not sufficient to give rise to characteristic physical signs.

Two procedures, however, enable the practitioner to make a diagnosis; the tuberculin test and the *x*-ray. The tuberculin test determines infection. Myers recommends the intracutaneous technique, not only because it is more certain but also because the variations in the reaction give some clue as to the extent and activity of a tuberculous process. This test should never be omitted, even in

older children. The *x*-ray pictures the lesions, particularly those that are calcified. No examination for suspected tuberculosis among infants and children is complete without this aid, though a negative *x*-ray does not necessarily rule out tuberculosis; miliary disease may progress to a fatal outcome while yet the *x*-ray picture is clear; and focal lesions in the parenchyma and the hilum may be so small as to cast no shadow.

CLOSE CONTACT THE IMPORTANT FACTOR

The author discusses at length the etiological factors, with special reference to the communicability of the disease. The idea that tuberculosis is inherited is, of course, no longer tenable, but the observation of the older writers that "tuberculosis runs in families" is confirmed and explained on the basis of early infection through close contact with adult members of the family. Drawing on his rich experience, Dr. Myers cites numerous cases to illustrate the need of ferretting out the source of infection; for example:

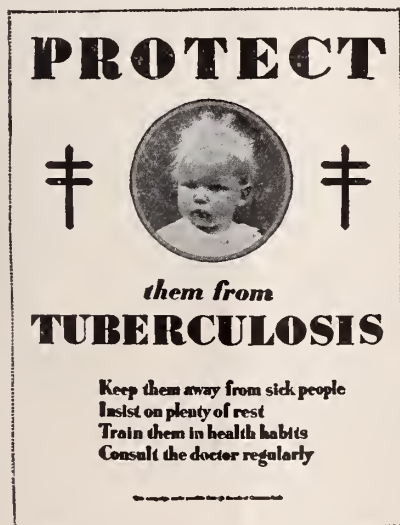
"A student nurse was diagnosed tuberculous in September, 1927, and placed in an institution under treatment. This fall, she is resuming her training. An older sister was examined, and although she did not have the adult form of tuberculosis at that time, there was unmistakable evidence of the latent childhood type in her chest. What was the source of exposure? The older sister was inclined to believe that she might have developed the disease through intimate contact with her sister. However, this did not seem probable since her disease appeared far older than that of her sister. According to the history, there had never been a case of tuberculosis in their family. In August, 1929, we were asked to see the mother, who had been brought to a hospital. She had frank pulmonary tuberculosis with bacilli in the sputum."

THE TEEN AGE

During the teen age, tuberculous lesions of the adult type begin to appear with greater frequency. They may be seen in all stages of development and retrogression. Evidences of tuberculosis in children, however slight, must never be ignored, for though immediate danger

may not seem to be imminent, a serious outcome is likely to follow unless prompt treatment is instituted. In general, the treatment consists in preventing further exposure of the child to tubercle bacilli, together with common sense hygienic care, as epitomized in the poster-illustrated.

During April, 1930, tuberculosis associations throughout the country will call to the attention of the public the importance of discovering tuberculosis in its latent stage in children. More than five million pamphlets will be distributed; two hundred thousand posters like that illustrated and six thousand billboard posters will be displayed. Newspaper articles, lectures, motion pictures, and many other publicity devices will also be called into play. For physicians who desire it, there will be made available a 32-page brochure on "The Childhood Type of Tuberculosis" by Chadwick and McPhe-dran. It treats of the diagnosis, prognosis and treatment of the condition, describes the technique of the tuberculin



test and interprets the reactions by means of color plates. There are six excellent x-ray pictures reproduced by the "aquatone" process, with interpretations. Ask your tuberculosis association or the National Tuberculosis Association for a copy.

————— R —————
The doctor's little daughter watched her father testing the heart and lungs of her younger brother. At last she asked: "Getting any new stations, daddy?"—Tit Bits, London.

The Importance of Long Experience

"There is one thing about Mead Johnson & Co. I like," said the physician who had visited the Research Laboratory at Evansville. "They don't go off half-cocked. You never hear of any severe nutritional disturbances resulting from their infant diet materials. Before they put a product on the market, they study and test it with infinite patience, and very quietly.

"For example, they have been working with vitamin B for eight years and only now in the Journal of the A. M. A. for March 22nd are they publishing the fact that they evolved a vitamin B concentrate eight years ago.

"They have been working on a new form of Dextrin-Maltose (with vitamin B) which they are about to market. I'll wager there won't be any diarrheas or other untoward results with this preparation. Mead Johnson's research *before* marketing it too thorough."

————— R —————

DEATHS

Samuel Murdock, Sr., Sabetha, aged 88, died March 27, 1930. He graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1876.

Dr. T. L. McCarty, Dodge City, Kansas, aged 82, died April 2, 1930 at Newton, Kansas. He graduated from Jefferson Medical College of Philadelphia in 1870. He was a member of the Society. He had practiced at Dodge City since 1872.

David B. Buehler, Pretty Prairie, aged 51, died January 25, 1930. He graduated from Kansas City Medical College in 1904. He was a member of the Society.

————— R —————

Sunday School Teacher: "Now children, you must never do anything in private that you wouldn't do in public."

Sammy: "Hurray! No more baths!"—Stevens Stone Mill.

* * *

Visiting Doctor: "How is it, Sambo, that you and your large family are so healthy?"

Sambo: "Well, suh, Ah tell you; we've done bought one of dose sanitary drinkin' cups, an' we all drink outen it."

* * *

Mrs. Casey: "Isn't your husband better yet?"
Mrs. Murphy: "Oh, sure he's all right. But he can't go back to work yit because he's got some medicine left over that he's got to use up."—Gargoyle.

THE JOURNAL

of the

Kansas Medical Society

W. E. McVEY, M. D. - - Editor

ASSOCIATE EDITORS—C. W. REYNOLDS, L. B. SPAKE, P. S. MITCHELL, O. P. DAVIS, J. T. AXTELL, J. F. GSELL, C. C. STILLMAN, ALFRED O'DONNELL, C. S. KENNEY, I. B. PARKER, C. H. EWING, W. F. FEE.

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THE ANNUAL MEETING

If one can judge by the program as it is so far completed, the annual meeting which will be held in Topeka, May 6, 7 and 8, should be one of the most interesting and best attended in the history of the Society.

It has always been our misfortune that there is always more to be done than there is time in which to do it. Our program is always voluminous enough to completely occupy the three days of the meeting. Business sessions therefore must be held whenever time can be found between general meetings with the result that these business meetings always run over the time allotted. The attempt made last year to complete the business of the House of Delegates in one hour was a failure. It simply cannot be done. At the coming meeting the first session of the House of Delegates will be held on Tuesday evening and there is nothing to interfere with it. It may continue until morning if necessary to complete the business before the Society, and it is to be hoped that all matters about which much discussion is necessary will be settled before the meeting adjourns. The

next meeting of the House of Delegates is intended for the election alone and the by-laws provide that it must be held on the last day. If all of the other business can be completed on Tuesday evening, the Thursday meeting should accomplish all of its business by nine o'clock. The program for Thursday is an excellent one and nothing should be permitted to interfere with all of the members attending it.

Setting aside Tuesday evening for the meeting of the House of Delegates leaves Wednesday evening for the public meeting and the entertainment. A formal banquet such as has been the custom is simply out of the question. However, there will be plenty of entertainment, though a little late. The committee on arrangements will provide both food and entertainment after the public meeting at which Dr. Morris Fishbein will speak, and which everybody will want to attend.

After the public meeting has adjourned the members are expected to return to the Jayhawk where there will be wrestling, boxing, music and dancing, etc., and a buffet luncheon. From the report of the committee on entertainment it will be good, it will begin about 9:30 and ought to end sometime.

There is one subject in which all of our members and a great many physicians in the state who are not members are interested, and about which all have something to say and would welcome an opportunity to say it. The "radio quack" as he has been designated by the commissioner of health of New York, is not a Kansas institution alone, he is prevalent in the eastern states also. However, this fact does not mitigate the evil circumstances which permit the continued existence of our own pet aversion. Before this everyone knows from the newspaper stories that the Board of Registration

will very shortly have an opportunity to decide if this man is legally entitled to hold a license. To any one of us, at least to any one of us not endowed with a legal habit of mind, it would seem there is evidence enough to justify the revocation of the license of any other man in the state.

There is every good reason to hope that by the time the Society meets in May there will be something definite to report, and it is certain that the report will demonstrate that the officers and councillors of the Society have not been inactive, as lack of reports may have led some of the members to think. They have had some perplexing problems to work out and they have met with serious disappointments in endeavoring to carry out the suggestions and plans submitted to them. There are times when it seems best to disguise ones feelings as much as possible and tell as little as possible of what one knows, and this seems to have been and perhaps still is one of the times.

Ones attention and interest are usually centered on that disturbance of the ordinary run of things that most pleases or most annoys him. In the neighborhood of a boiler factory one can easily ignore and forget the nerve wrecking noise of a flat-wheeled trolley car; when the automobile runs over a polecat the driver in the back seat forgets all about the disagreeable odor of stale tobacco of which she has been complaining for the past fifty miles.

For some years after the passage of the medical practice act we were considerably disturbed on learning that some one was practicing medicine without a license. Soon after the state conferred special privileges on the osteopaths and chiropractors, we became more concerned about whether these cults were legally authorized to administer drugs in practicing the healing art according to their

particular methods, than in violations of the medical practice act by persons who had no license to practice the healing art in any form. The more recent advent of the "radio quack" has diverted our attention from the cults and we are again beginning to recognize the importance of giving some attention to the provisions of the laws governing the practice of medicine and the licensing of persons to practice medicine.

It does not matter much how comprehensive or how specific a law may be if no effort is made to enforce it. It is not known just how comprehensive or how specific the medical practice act really is, for many of the questionable points have never been tested in the courts. It has usually been assumed that because the medical practice act, on account of a special exempting clause, does not apply to osteopaths these gentlemen cannot be prevented from giving drugs and practicing medicine without limitations. It has been suggested that a case might be brought to determine what is meant by practicing osteopathy as that term is used in the act which created the board of osteopathic examiners. Technically the law did not grant them the right to administer drugs, for at the time it was passed the subject of materia medica was not taught in their schools and they were not required to be examined in that subject. There is nothing in the law which defines osteopathy, except that those who have passed the required examination may practice osteopathy as taught in the schools of that cult. If the courts should decide that osteopathy includes drug therapy and that they have the right to practice medicine without limitation, then we would have good grounds for attacking the constitutionality of the law—that would appear to be class legislation and it would be worth something to find out what the courts would say about it. If

the exemption clause in the medical practice act permits osteopaths and chiropractors to practice medicine without limitation then that clause would seem to be unconstitutional also as class legislation.

The medical practice act exempts gratuitous services in the following: "Nor shall anything in this act apply to the administration of domestic remedies, nor to prohibit gratuitous services." The supreme court held that the administration of domestic remedies for a fee was in violation of the act. It might be well to find out if the recommendation of a remedy in connection with other treatment for which a fee is charged would also be in violation of the law. It has been reported that chiropractors sometimes attempt to evade the law in that way. There are various forms of so called gratuitous services that might be called into question. Technical evasions of law are not regarded with much favor by the courts at this time.

There is one trouble about a systematic enforcement of these laws. Members of our profession feel considerable hesitancy in bringing complaints against violators of the law in their own community because of the sentiment it is likely to arouse in defense of one whom the public is too ready to believe is being persecuted. If the Society is to interest itself in the enforcement of these laws, the duty should be assigned to some one who will be immune to local influences and insensible to criticism.

PROPOSED AMENDMENT

The following proposed amendment to the Constitution was presented to the Council at its annual meeting in January and was approved. Resolved that Section 1 of Article X of the Constitution be amended to read as follows:

Article X

Section 1. The term of office of the President shall be for one year and shall begin on the first day of January following his election. The term of office of the President-elect shall be from the date of his election until the first day of January following. The terms of office of the Vice President and the Treasurer shall be for one year. The terms of office of the Secretary and of the Councillors shall be for three years. All of these officers shall serve until their successors are elected and installed.

R CHIPS

A definite relationship between hyperthyroidism and focal infection has not yet been established, but reports tending to show that such relationship can be reasonably suspected are accumulating. In the January number of *The Ohio State Medical Journal* Douglas and Stone report two cases in which the presence of gall bladder disease might be regarded as responsible for a recurring hyperthyroidism. There seems to be no reliable statistics on the coexistence of these conditions and it might prove profitable to investigate the gall-bladder in all cases of hyperthyroidism.

The corpus luteum degenerates or regresses after a predetermined period has elapsed unless the stimulus from an impregnated reimplanted ovum keeps it alive—is the opinion of Wagner. It is part of the function of the corpus luteum to prevent hemorrhage from the hyperemic mucosa and the menstrual hemorrhage occurs after the corpus luteum ceases to function. On these facts is based the conclusion that persistence of a corpus luteum may result in amenorrhea without pregnancy. If this is an explanation of the many cases of periodic amenorrhea then it remains to discover what factors besides pregnancy cause a persistence of the corpus luteum.

The trend of modern thought seems to be to place all diseases not known to be due to specific infection in the category of diseases for which foci of infection must be responsible. Since the most popular locations for such foci are at this time the teeth, tonsils and gall-

bladder, organs that can be readily removed and which can be easily dispensed with, insofar as their known physiologic functions are concerned, it has some economic advantages. The value of these advantages is further enhanced by the concensus of opinion that infection in these organs does not yield to any sort of treatment except complete removal. Less popular but probably more common as a source of focal infection is the intestinal tract, which though not so easily removed or dispensed with, can apparently be freed of the infectious process by therapeutic procedures.

Having observed in some cases of nephrosis that the greater the albuminuria the lower was the serum protein, and the lower the serum protein, especially the albumin fraction, the greater was the edema, Barker and Kirk were led to undertake some experiments on dogs to determine if the whole symptom-complex of nephrosis might not be secondary to the low serum protein. The results of this investigation are reported in *Archives of Internal Medicine*, March, 1930. They found that edema can be produced in dogs by decreasing their serum protein and that in both patients and dogs the amount of edema seems more closely associated with the level of the serum albumin fraction than with the total protein. In dogs the basal metabolism fell with the depletion of the blood serum. The blood volume was unchanged during the edematous period in dogs, but the cardiac output was greatly increased. Pathologic changes were produced by the low proteinemia in dogs.

R

Seventy-First Annual Meeting of the Kansas Medical Society, Topeka, May 6-7-8, Jayhawk Hotel

PROGRAM

Tuesday, May 6th, 8:30 a. m.

“President’s Address”—Dr. E. S. Edgerton, Wichita.

“Neerology Report”—Dr. E. E. Liggett, Oswego.

“The Treatment and Management of Tetanus”—Dr. L. W. Shannon, Hiawatha. Discussion opened by Dr. W. G. Emery, Hiawatha.

“The County Health Officer”—Dr. W. K. Johnson Garnett. Discussion opened by Dr. C. H. Kinnaman, Topeka.

“Impressions of Student Health Services”—Dr. Ralph C. Canuteson, Lawrence. Discussion opened by Dr. Noble P. Sherwood, Lawrence.

“Gastric and Duodenal Ulcer”—Dr. L. O. Nordstrom, Salina. Discussion opened by Dr. Alfred O’Donnell, Ellsworth.

“Stasis of Caecum and Ascending Colon”—Dr. L. D. Johnson, Chanute. Discussion opened by Dr. P. S. Mitchell, Iola.

“Acute Intestinal Obstruction”—Dr. R. D. Russell, Dodge City. Discussion opened by Dr. W. S. Grisell, Ransom.

“The Diagnosis of Acute Osteomyelitis” (with lantern slide demonstration)—Dr. E. E. Morrison, Great Bend. Discussion opened by Dr. E. D. Ebright, Wichita.

“Mental Disturbances Associated with Puerperium”—Dr. Wm. C. Menninger, Topeka. Discussion opened by Dr. C. E. Coburn, Kansas City.

Wednesday, May 7th, 8:30 a. m.

GUEST DAY

“Fractures”—Dr. John R. Nilsson, Omaha, Nebraska.

“The Diagnosis and Treatment of Lesions of the Cranial Nerves”—Dr. Walter E. Dandy, Baltimore, Md.

“Repair of Injuries of the Hand”—(lantern slides)—Dr. Allen B. Kanavel, Chicago, Ill.

(Subject not received)—Dr. Morris Fishbein, Chicago, Ill.

“Problems of Cancer”—Dr. Joseph C. Bloodgood, Baltimore, Md.

Thursday, May 8th, 8:30 a. m.

“Hemorrhoid Operation under Local Anesthetic”—Dr. Claude C. Tucker, Wichita. Discussion opened by Dr. A. P. Gearhart, Wichita.

“The Present Status of Women in Medicine”—Dr. Elvenor Ernest, Topeka. Discussion opened by Dr. Maud DeLand, Topeka.

“Treatment of Bronchial Asthma”—Dr. Allen Olsen, Wichita. Discussion opened by Dr. P. M. Krall, Kansas City.

"Diabetes"—Dr. B. P. Smith, Neodesha. Discussion opened by

"Tuberculosis of the Mesenteric Lymph Glands"—Dr. Milton B. Miller, Topeka. Discussion opened by Dr. W. F. Bowen, Topeka.

"Radiation Treatment of Non-Malignant Lesions of the Female Pelvis"—Dr. L. G. Allen, Kansas City. Discussion opened by Dr. J. A. H. Webb, Wichita.

"Para-tonsillar Infections"—Dr. L. B. Spake, Kansas City. Discussion opened by Dr. W. O. Quiring, Hutchinson.

"Hip Joint Disease"—Dr. W. F. Schroeder, Newton. Discussion opened by Dr. R. S. Haury, Newton.

"The Surgical Female Abdomen"—Dr. L. V. Dawson, Ottawa. Discussion opened by Dr. C. C. Bennett, Scott City.

Meeting of the Council

The first meeting of the Council will be held on Tuesday, May 6th, in the Green Room of the Jayhawk Hotel at 12:15 p. m. Other meetings of the Council will be held at the same place at the call of the president

Meeting of Secretaries

There will be a complimentary luncheon for the secretaries of all county societies at 12:15 p. m., Tuesday, May 6th, in the Green Room of the Jayhawk Hotel. This will be a joint meeting with the Council.

Meeting of House of Delegates

The House of Delegates will meet in the Convention Hall of the Jayhawk Hotel at 7:30 p. m., Tuesday evening, May 6th. There will be a meeting of the House of Delegates for the election of officers in the Florentine Room of the Jayhawk Hotel, Thursday morning, May 8th, at 8 a. m.

Public Meeting

There will be a public meeting at Memorial Hall, corner of Tenth and Jackson Streets on Wednesday evening, May 7th, at 7:30 p. m., at which an address will be delivered by Dr. Morris Fishbein of Chicago.

Entertainment

Following the public meeting on Wednesday evening there will be an entertainment in Convention Hall of the Jay-

hawk Hotel. This entertainment will consist of boxing, wrestling, music, dancing, vaudeville, etc., with a guffet luncheon. Tickets \$1.50.

Kansas Medical Auxiliary

Tuesday, May 6th

3 p. m. Reception at the home of Dr. and Mrs. Omer M. Raines, 1551 Lakeside Drive.

Wednesday, May 7th

1 p. m. Luncheon at the Florentine Room of the Jayhawk Hotel. Plates 75c. Business meeting of the Auxiliary immediately following the luncheon.

7:30 p. m. Public meeting at Memorial Hall, Tenth and Jackson Streets, after which the visiting ladies will be the guests of the Chamber of Commerce.

Thursday, May 8th

10:00 a. m. A visit to the Woman's Club and the Topeka Art Guild.

—R—

SOCIETIES

PRATT COUNTY MEDICAL SOCIETY

The Pratt County Medical Society held its regular meeting Monday, March 24th, at the Nineseah Hospital, Pratt, Kansas. In addition to the regular membership present, Dr. Harry Haskins of Kingman and Dr. Burnette of Cunningham were visitors. Instead of the regular program, a general discussion of radio in medicine was taken up. The subject was thoroughly gone into by all present. The entire membership as well as the visitors think that the use of radio to advertise one's practice and prescriptions, as is being done by Dr. J. R. Brinkley of Milford, Kansas, is not only unethical but unscientific as well. The druggists who have lined up with Brinkley are making a mistake but they probably can be made to see their error and, if so, will correct it. The Society unanimously voted to order 100,000 copies of an article that appeared in the A. M. A. Journal concerning Brinkley's record, of which every doctor in Kansas should be familiar, and distribute them to all members of the Kansas Medical Society so they can be read by the public. The society adjourned at a late hour but will have their next regular meeting the third Monday in April at 8:00 p. m.

E. M. IRELAND, Secretary.

CLAY COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Clay County Medical Society was held in the sun parlor of the Clay Center Municipal Hospital on the evening of the 19th of March.

During the business session four new applications for membership were presented. This makes all the doctors in the county members of the society.

Following the business session Dr. Arthur D. Gray of Topeka gave a very interesting and instructive talk on pyelitis.

Fourteen members and eight guest physicians were present. Among the guests were Doctors W. E. McVey, E. H. Decker, and W. F. Bowen of Topeka, Kansas and Dr. Carl Schwer of Denver, Colorado.

F. R. CROSON, Secretary

BROWN COUNTY MEDICAL SOCIETY

At a meeting of the Brown County Medical Society held in Hiawatha, Kansas, February 28, 1930, the following agreement was unanimously adopted:

"We, the undersigned, agree individually and collectively to withhold our patronage from any drug store which cooperates in any way in the distribution of prescriptions or formulae sent out by unethical physicians and surgeons by means of radio or other unethical advertising."

If the other societies would adopt this plan we might be able to curtail some of the unethical advertising that is being done at this time.

S. M. HIBBARD, Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The Franklin County Medical Society held its regular March meeting Wednesday evening, the 26th. Pursuing its policy of itineracy, it held a joint session with the Leavenworth Society at Lawrence, a mid-way meeting place, with the Douglas County Society as guests. Dinner at the Colonial Inn. Our own society was nearly a hundred per cent present. The Leavenworth County Society, less enthusiastic, turned out four of its members; Wyandotte County and Jackson County (Missouri) societies were represented and the Douglas County Society

gave us a "full house," fifty doctors, one nurse and one medical student, Jack Davis from the freshman class, K. U. and son of the secretary.

All talent on the program was present. The program opened with a paper by Dr. H. K. B. Allebach of Ottawa: "The Use of Forceps in Obstetrics." The Doctor reviewed the history and development of instruments, reasons for their use, interesting technique in their application and results to mother and child. He was very explicitly favorable to efficient anesthesia as part of the preparation of the mother, and dwelt at some length on the immediate after care, perineal repairs, etc., while the anesthesia was effective. The Doctor's paper was closely attended and was a commendable opening for the next speaker, Dr. H. J. Stacy of Leavenworth, who gave the joint societies a very striking paper and talk on manual deliveries. The Doctor's paper rang true to his experience. A cross section of a third of a century's experience in the emergencies the practice of his profession had discovered to him. In all his discussion of the various procedures of assistant interference by the attendant accoucheur he sounded clearly the need for thorough anesthesia and dilation of the soft parts to the limit of the pelvic capacities. In this connection mentioning the belief, shared by other observers, that the American pelvis was diminishing, quoting John Polak of Brooklyn who had frequently given publicity to his prophecy that cesarean section would come more and more into use in this country, because of its very necessity. Dr. Stacy, as is quite well known by his associates, is quite wedded to manual deliveries, advocating, as he does, more frequent use of podalic version, a procedure which many members present regarded as a heroic measure, rather to be chosen as a matter of expediency than election. Dr. Stacy, however, is quite content to consider podalic version as not too heroic a thing to be useful to the practitioner, in the interests of the mother and babe.

The next paper was by Dr. J. T. Kimsey of Lathrop, Missouri, a veteran dean of the profession of our sister State.

A man who added to the introduction given him by the Secretary that he was just a common doctor, a family physician who had "saddle bagged" Clay County and Ray County more than half a century ago, then followed or kept ahead of the stork in his old two-wheeled gig and later his "piano box" buggy, then a more stylish turn out, the phaeton and ending his animal drawn vehicle days with a glass enclosed cab. During the last two decades he has stuck to Henry and Lizzie and now uses a Model A. He thought he had little to offer to a program that was opened with forceps and felt out of place and out of joint with the times, maybe, but still standing by when the stork was bringing them in. Dr. Kimsey told us that in all of his more than half century of practice he had never owned or used a pair of forceps. He admitted that perhaps it would have been better for him and the mother, maybe if he had; that as he had gone from patient to patient he had sometimes called counsel when he believed mechanical intervention should be had; that he had been a party to such procedures, but even now looking in retrospect he was not wholly content to hold himself blameless in the light of modern orthopedics. The good old doctor, bowed with the weight of years, is coming to the close of a long experience in the care of baby cases and is content to rest on the honors that Milton ascribed to the impatient waiting one when he said "they also serve who only stand and wait."

Dr. Kimsey's part in the program paved the way for the children's friend, Dr. C. B. Francisco, in the prime of his life and in the midst of experiences intimately correlated to the subject of instrumental deliveries, who gave the outstanding talk of the evening. While he believed that one of the etiological factors in the lesions of crippled children might be and probably was the end results of instrumentation at birth, yet, realizing as he did that parturient mothers have needed, need now, and would continue to need help of the obstetrician, he urged great care in the choice of method employed and greater care in its use. He stressed particularly close observation

of the child that had had unnatural birth involving trauma of the head. Regard any evidence of meningitis as pathognomonic of clot and be accordingly guarded in prognosis, being better to unduly alarm the family as to the possibilities of co-ordinating disabilities than to neglect the opportunity to inaugurate co-operation of the family to the end that the child might be spared the common invalidism of crippled children. Dr. Francisco went quite deeply into his subject and said many things that we may hope will influence his hearers to realize the importance of great care and tact in obstetrics.

In closing Dr. Anderson, president of the Douglas County Society invited all to their next meeting, Thursday, April 3rd, at the Lawrence Memorial Hospital.

GEO. W. DAVIS, M.D., Secretary.

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GOLDEN BELT SOCIETY

The Golden Belt Society met in Topeka, April 7, as the guests of the Shawnee County Society. The following program had been arranged and was carried out:

3 p. m.

1. Motion Picture: Influence of Drugs on Gastro-intestinal Motility, taken by Drs. H. B. Kellogg and L. W. Dowd of Northwestern University in co-operation with Petrolagar Laboratory.—Mr. A. H. Sherburne.

2. Clinical Demonstration—Mastoid Disease.—Dr. W. W. Reed.

3. Clinical Surgical Case Presentations.—Dr. W. M. Mills.

4. Motion Picture: Breech Presentation with Forceps on After-coming Head.—Dr. Harry J. Davis.

5. Case of Multiple perforating Urinary Fistulae of Sigmoid.—Dr. A. D. Gray.

6. Common Errors in the Diagnosis of Feeble-mindedness.—Dr. Karl A. Menninger.

7:15 p. m.

Business Meeting of The Golden Belt Medical Society.

8:00 p. m.

In Representative Hall, State House Public Health and the General Practitioner.—Dr. Wm. F. King, Secretary Indiana State Board of Health.

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No. 5

Congenital Heart Disease—Case of Tetralogy of Fallot

DON CARLOS PEETE, M.D., Kansas City.
Department of Medicine, University of Kansas.

A very interesting patient recently came to the Eye Clinic, complaining of headaches and increased watering of the eyes. The pronounced clubbing of his fingers was noted by Dr. John Billingsley, who referred the patient to the Medical Clinic for examination. The patient is an undersized colored man, 22 years old, 4 feet 11 inches in height, weighing 69.5 pounds.

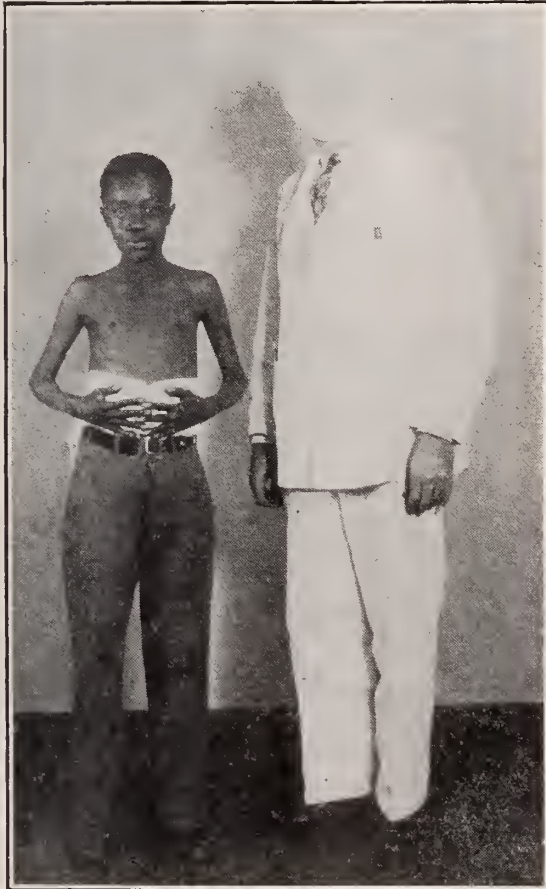


Fig. 1

C. C. Headaches, dizziness, shortness of breath, cough.

P. I. After working as a clerk in a grocery store until September, 1929, he was forced by increasing weakness, a cough and dyspnea to go to bed for a month. He was told that his illness was due to his heart. Since recovery from this illness he has not regained his former strength, is unable to walk more than two blocks without much difficulty and respiratory embarrassment; headaches and dizziness, cough and dyspnea are very marked on exertion.

P. H. The patient had much sickness during early childhood, the usual childhood diseases seemed to be much more severe for him than other children in the family. He says he was carried about on a pillow when a baby; unable to run and play games with other children because of dyspnea and cough; had measles in 1925, very severe; had penile sore in 1921 which was treated by circumcision. Finished high school at 17 years, was unable to take cadet training due to dyspnea and weakness on exertion.

F. H. Father died in 1922 at 42 years of age. Mother died in 1925 at 32 years, cause unknown. Three brothers and one sister living and well. The patient was a third child, one brother, several years younger and much larger, is able to carry him on his back.

Physical Examination: Patient, a small colored man, appears to be about 14 years old, but actually is 22 years of age; has a marked clubbing of fingers and toes; a deep purple hue of mucous membranes is noted. The pupils react to light and accommodation. The tongue, lips and gums have the dark, purple appearance such as left after eating blackberries. Pulsating vessels are seen in the neck, probably carotids.

There is a mild enlargement of left chest but practically no scolioses. A definite cardiac impulse is felt at the precordial area but no definite thrill is made out. The P.M.I. is diffused and

can be seen in the seventh interspace and as far as 12 cms. to the left of the mid-sternal line; R.C.D. to the left 10 cms. and 4 cms. to right. There is a loud

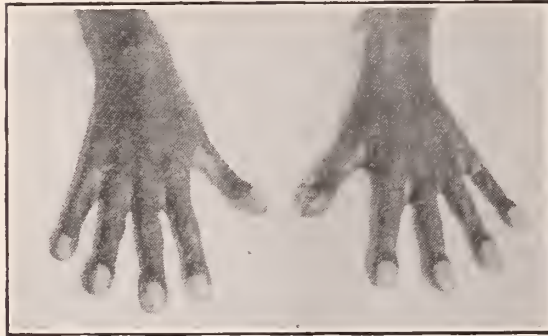


Fig. II



Fig. III

diastolic murmur heard over the entire precordium which is loudest at the 4th interspace to the left of the sternum, the murmur being transmitted to the vessels of the neck, but not transmitted to the axilla; may be heard faintly to the left of the 2nd and 3rd vertebrae posteriorly. There is a snappy first sound at the apex which sounds greatly like a pre-systolic or an Austin Flint murmur. A 2 is great than P 2. A systolic murmur is heard over the base in the 3rd interspace to the left of the sternum.

Pulse: rate 20 to $\frac{1}{4}$ minute, regular, poor volume and tension. Blood pressure not obtainable with the Baumanometer. Recording Sphygmomanometer shows it, with a very feeble excursion, to be systolic 70, diastolic 35. Pachon's oscillogram, systolic 90, diastolic 50. Moist rales are heard at each base.

Liver is palpable $2\frac{1}{2}$ cms. below costal margin. Abdomen otherwise negative. K.K. active; feet show clubbing of

toes, no edema.

Laboratory Reports: Wassermann and Kahn negative. Blood examination: Hgb. 123%; red cells 9,104,000; leucocytes 4,400; color index 0.6; fresh blood black and viscous; P.M.N. 59%; P.M.E. 1%; S.M. 39%; transitionals 1%. Urine examination, straw, acid, 4 plus albumin, specific gravity 1.022, negative sugar, many granular casts.

x-Ray report by Dr. John Rodick is as follows: "Examination of the chest shows the diaphragm smoothly contoured, although the left is somewhat elevated. The hilar shadows and radial markings are moderately increased but there is no evidence of infection in the lungs.

"The heart shadow measures $3\frac{3}{4}$ cm. to the right of the midline and 10 cm. to the left. This shows a total width of $13\frac{3}{4}$ cm. while half the inside diameter of the chest is but $11\frac{1}{2}$ cm., thus demonstrating enlargement of the heart with the greatest change in the left ventricle. Fluoroscopic examination confirms these findings and, although there is some widening of the aorta, the retro-cardiac space is not decreased by any appreciable enlargement of the left auricle and there is no abnormal prominence of the pulmonary conus."

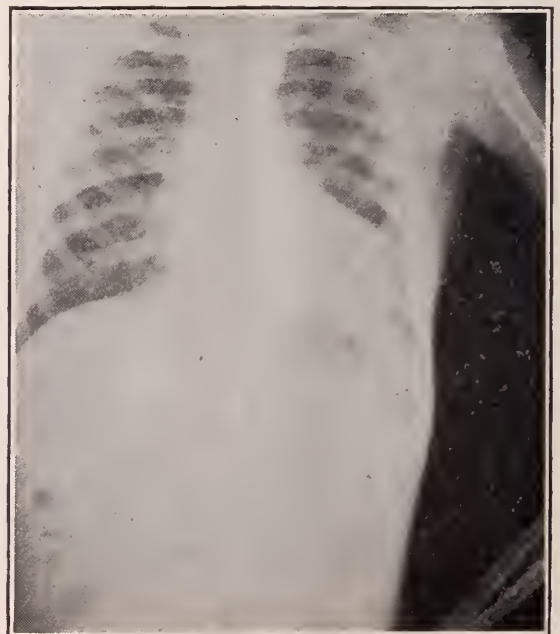


Fig. IV

"The left ventricular enlargement appears to be the predominant lesion and produces the cardiac contour commonly seen in aortic stenosis and regurgitation of moderate degree."

Electrocardiogram: the P wave is increased in amplitude, and there is also evidence of right ventricular preponderance.

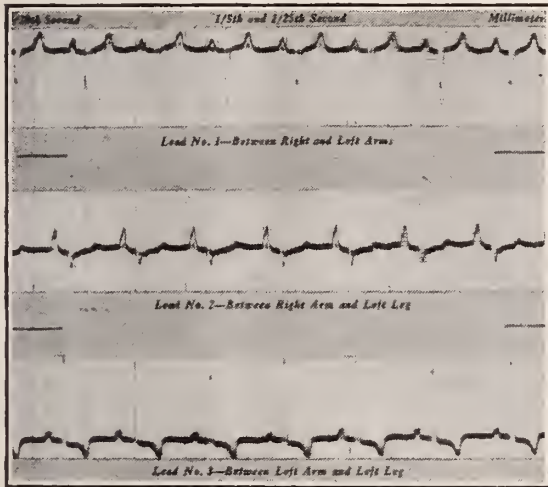


Fig. V

March 5, 193. Patient has been bleeding from gums.

March 8, 1930. Dizzy headaches.

March 14, 1930. Had an epileptiform seizure 5 days ago, after having walked a mile.

SUMMARY

1. Headaches—dizziness—epileptiform seizures.
2. Marked retardation in growth.
3. Clubbed fingers and toes.
4. Deep cyanosis.
5. Enlarged heart, *x*-ray evidence of left sided hypertrophy.
6. Electrocardiographic evidence of right ventricular preponderance.
7. Loud diastolic murmur faintly transmitted to vessels of neck and to back, but not to axilla.
8. Rales at base of lungs.
9. Liver $2\frac{1}{2}$ cms. below costal margin.
10. R.B.C. 9,104,000, H.P. 123%.
11. Albumin 4 plus, granular casts.

DIAGNOSIS (TENTATIVE)

1. Congenital heart disease.
2. Pulmonic stenosis.
3. Intraventricular defect.
4. Dextra position of the aorta.

5. Right ventricular hypertrophy.
6. Left ventricular hypertrophy.
7. Aortic insufficiency.

As we are yet unable to report any necropsy findings in this case, our diagnosis, in some respects, must be more or less speculative, and for that reason it has brought out some very interesting discussion. About 50 per cent of all congenital heart cases are found to have either a pulmonary stenosis or an atresia. Most of these cases show an intraventricular defect, and many show the aorta arising above the defect from both the right and left ventricles. Fallot was the first to call attention to the clinical and pathological picture of the most common type of congenital heart disease seen. There are four outstanding anatomical findings which are associated with such cases called "the tetralogy of Fallot," *i.e.*; 1. Pulmonary stenosis. 2. Intraventricular septal defect. 3. Right ventricular hypertrophy. 4. Dextra position of the aorta.

Most all who have seen this patient are agreed that there is a pulmonary stenosis, an intraventricular septal defect, and we have electrocardiographic evidence of a right sided hypertrophy. Now, as to the dextra position of the aorta, we have no means of proof except that, as Fallot and others pointed out, it is one of the usual anatomical findings.

Is there an aortic insufficiency in this case? There has been much discussion on the question, some of which follows. There is a loud diastolic murmur heard best at the 4th interspace to the left of the sternum, a questionable Austin Flint murmur, throbbing carotids, and *x*-ray evidence of left sided hypertrophy. The blood pressure in this case would tend to disprove aortic disease, but we can hardly compare normal blood pressure phenomena with that of a congenital heart, especially in a heart that has such poor tone. The cause of this aortic insufficiency, if it does exist, is also open to discussion. Abbott has shown the frequent association of subacute bacterial endocarditis with congenital heart disease. There is also a possibility of luetic aortitis with regurgitation. This patient gives a history of a primary lesion. The

blood Wassermann and Kahn are negative, but, we frequently find that phenomena occurring in cases that show luetic aortitis at necropsy.

Dr. Ralph Major and Dr. Thomas G. Orr reported a patient at the staff meeting in April, 1929, having a patent foramen ovale with an aneurysm of both right and left branches of the pulmonary artery which was anatomically luetic. The blood Wassermann and physical examination for lues were negative.

Finally: This is a report of a patient with congenital heart disease, in which we make the diagnosis of the tetralogy of Fallot with aortic regurgitation. Necropsy findings will be of great interest and may show us to be wrong in our conception of existing conditions.

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R

Generalized Tuberculous Lymphadenitis

SAMUEL D. KATZ, M.D.

Department of Pathology

Tuberculosis of the lymph nodes many times simulate, clinically, other diseases of the blood forming organs. The following is a case which clinically was diagnosed Hodgkin's Disease or (?) Lymphosarcoma, but autopsy findings were those of hyperplastic tuberculous lymphadenitis.

G. K. 13 months old, white male, who was brought to Bell Memorial Hospital on October 1, 1929. History of feeding difficulty at 3 months of age was obtained. He was taken off of breast milk and evaporated milk was substituted. He continued to be no better and it was noticed that the glands in his neck began to enlarge. Family history of scrofula (tuberculosis) in father.

Physical Examination: The child appeared emaciated and anemic. He showed papular eruptions on the soles of the feet and marked enlargement of the anterior and posterior cervical lymph glands, axillary and inguinal glands. Child on admission did not appear very ill though at times later be-

came very restless and cried very much. W.B.C. count 17,000.

Progress: October 12, 1929, some glands of the neck were removed for examination. Following the operation, the child continued to become more restless and died October 13, 1929, at 11:10 a. m.

AUTOPSY

General Inspection: The body is that of an emaciated male infant measuring about 24 inches long and weighing 13 pounds. He appears emaciated and of poor muscular and skeletal development. The anterior fontanelles are open. There is a slight discharge of mucus from the nares. The gums are edentulous. The anterior cervical lymph nodes are markedly enlarged and matted together, being larger superiorly and smaller toward the clavicles. There is a recent surgical incision on the left side, 3 cm in length. The axillary lymph nodes are enlarged and discrete. The chest wall is thin and shows emaciation. The abdomen is slightly rounded. Several firm nodules can be felt throughout the abdomen. No organs are palpable. The inguinal lymph nodes are enlarged.

Peritoneal Cavity: Peritoneal surface shows small granulations, which are opaque in color. The small and large intestines are matted together by the enlarged, nodular mesenteric lymph nodes and adhesions.

Thoracic Cavity: Adhesions are found between the middle lobe of the right lung and the chest wall. Anterior mediastinal lymph nodes, and those along the internal mammary vessels are enlarged.

Organs: The lungs weigh 110 grams. Adhesions are present on the surface. Small grayish white tubercles are also seen. Cut surface shows some congestion as well as small tubercles. Bronchi contain thick mucus. The tracheobronchial lymph nodes are enlarged, and on cut section show caseation. Liver and spleen show small tubercles over the surface, and on cut section.

Thymus, heart, pancreas, gall bladder, adrenals and kidneys show nothing abnormal.

The left scrotum is enlarged, showing an edematous condition of the tunica vaginalis and cystic hydrocele.

Small intestines are filled with greenish fecal material. The serosal surface is studded with small grayish-white nodules measuring from .5 to 1 mm. in diameter. In certain segments clusters of these tubercles are seen on the peritoneal surface. Section through these patches show typical ragged ulcers, tending to circumscribe the gut. The cecum is surrounded by enlarged lymph nodes. Transverse and descending colon show the same serosal appearance. The mesenteric lymph nodes are markedly enlarged to 3 to 4 cm. in diameter. They are matted together with other glands, though at places are discrete. The mesentery is thickened and is covered with patches of tubercles. The glands cut with a gritty sensation and on cut section show a dense white fibrous appearance, though occasionally a gland presents a yellow caseous-like material. Cut section of the other enlarged lymph glands presents a similar appearance.

HISTOLOGICAL PATHOLOGY

Lungs, liver and spleen present a typical picture of miliary and conglomerate tuberculosis, with a small amount of caseation. Thymus, heart, pancreas, adrenals and kidneys show nothing of an abnormal nature.

Sections of small intestines show a large number of well developed but small miliary tubercles on the peritoneal surface. Some tubercles are seen forming a portion of the wall and base of an ulcer. A similar change in the appendix is seen.

Sections of the lymph glands show the lymphoid tissue to be largely replaced by more or less diffuse and in some places a nodular type of tubercular inflammatory tissue. The tubercles show a striking tendency to proliferation of the epithelioid cells and the production of abundant fibrous tissue. In some areas, considerable masses of caseation may be seen, but in all places distinct multinucleated giant cells are characteristic. The hyperplastic reaction is predominating. Often miliary and conglomerate tubercles are seen, but in other places nothing but masses of epithelioid and giant cells, intermingled with areas of caseation are seen.

COMMENT

This child apparently did not appear as sick as he really was for no one realized that he would die so soon. This case shows marked lymphatic involvement in which the lungs showed nothing of great significance, which could not be explained by secondary dissemination. In children the point of inoculation is in the intestines, and also in the bronchial glands. In this case it was no doubt caused by lymphatic drainage of the tuberculous enteritis. Extensive involvement of the lymph glands in children is unusual. It is also unusual to find such a marked hyperplastic involvement without much caseation. This is why the glands appeared discrete and simulated Hodgkin's disease.

Literature reveals few cases such as the above. Most of the reports of enlarged lymph glands are confusing because of the lack of knowledge of the etiology of the cases. Since 1832, when Hodgkin described the glands known by his name, the relation between tuberculosis and Hodgkin's disease has been questioned. Many cases diagnosed as Hodgkin's disease clinically, proved to be tubercular in nature. C. Hilton Fagge¹ and Pye-Smith² reported such cases in 1873, as have Delafield³ and Sternberg. Andrews⁴ thought that although tuberculosis of the lymph nodes and Hodgkin's disease are indistinguishable clinically, the latter is a definite, separate entity.

At times no visceral tuberculosis can be found clinically, and very few such cases have been described. Tedenat⁵ in 1901 reported a case of a 18 year old male who presented enlarged maxillary, axillary and inguinal lymph nodes. No evidence of pulmonary or intestinal tuberculosis was found. Section of the gland was found to be that of tuberculosis. He reports another similar case in a man 40 years of age. Crip and Narr⁶ reported a case of generalized tuberculous adenitis in a 19 year old white male, who was still alive at the time of the report. Section and inoculation of the epitrochlear glands showed tuberculosis. Most cases reported failed to come to autopsy where some old, if

not recent visceral tuberculous infection may have been found. Patton⁷ reports a case, in 1914, which started with enlargement of the glands, and ran an acute course. At autopsy tuberculosis of the lymph nodes as well as of the viscera were found.

Landon⁸ reports a case of tuberculous lymphadenitis, which clinically was mistaken for acute lymphatic leukemia because of a high lymphocyte count. This is a rare condition.

In this case, the mesenteric lymphadenitis was no doubt caused by the lymphatic drainage of the tuberculous enteritis, with spread to the other organs. Older writers commonly spoke of cryptogenic tuberculosis, such as commonly seen in cervical adenitis, without a demonstrable focus. Peribronchial adenitis, which is commonly seen, may be caused by the tubercle bacillus carried there by a phagocyte. Such explanation for regional tuberculous adenitis is not probable for a generalized infection, in which a lymphatic or blood dissemination is necessary. The cause for this type of tuberculosis may be the selective specific affinity of the tubercle bacillus for lymph nodes. This predilection of tubercle bacilli for lymph nodes is apparently not in harmony with Bartel's theory that lymph nodes are protective, or with Murphy's belief that the lymph cells act as inhibitory agents.⁹

CONCLUSION

The case reported is an unusual type of tubercular reaction, there being a lymphatic type of tuberculosis with all lymphatic structures being particularly affected. It is associated with an unusual degree of ulceration of the intestinal tract, affecting the lymphoid Peyer's patches. The origin is most likely from the intestinal tract, with invasion and spread by the lymphatics.

Clinically the condition was confused with Hodgkin's disease. Histologic and bacteriologic studies usually settle the diagnosis.

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R

Acute Infective Laryngo-Trachitis (Non-membraneous Croup)

LAVERNE B. SPAKE, M.D.

Instructor Ear, Nose and Throat.

December 26, 1929, we were called to see baby J., eighteen months old, who had been sick for the past three days with a cold, cough and hoarseness; as evening comes on, respiration becomes more embarrassed, with laryngeal spasm, difficulty in breathing, increased respiratory rate, stridor, restlessness, slight cyanosis of finger tips. During paroxysm there was a marked indrawing of suprasternal notch, and epigastrium; no temperature, a typical case of croup. Chest findings were negative, except a few moist rales over both lungs

December 28, 1929: All above symptoms were more intensified. Paroxysms were more frequent. Enlarged thymus was suspected, due to prominence of infant's chest, and the marked overweight. The baby was referred to Dr. Lewis G. Allen for x-ray of the chest.

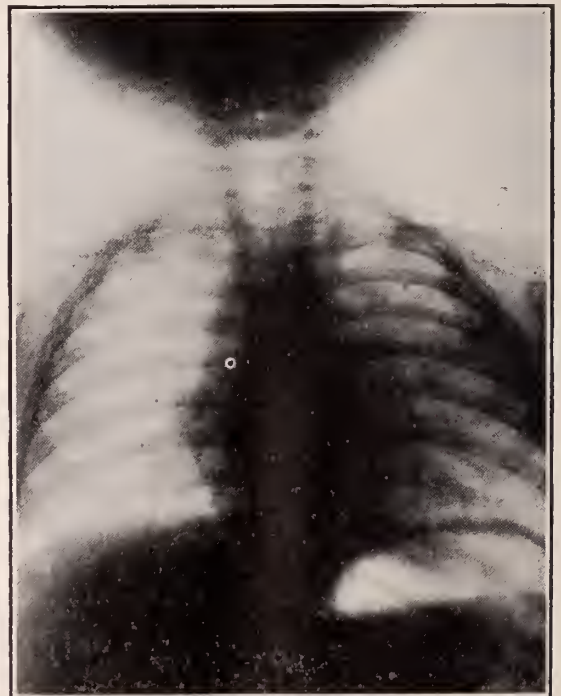


Fig. 1

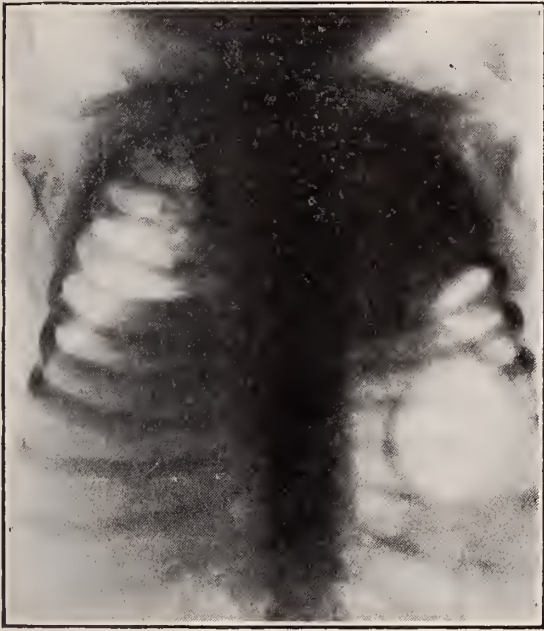


Fig. II

Plate I and II—December 28, 1929: "Radiographs of the chest show a marked increase in density of the entire left lung field, the increase is of a homogeneous character with no central parenchyma organization. No opaque foreign body is identified by repeated projections. The translucent shadow of the trachea is abnormally narrowed at the level of the 5th cervical vertebra.

Fluoroscopic examination of the chest reveals a wide excursion of each diaphragm. Expiratory excursion is exaggerated, to the end that the left chest appears quite opaque at this phase of respiratory cycle.

Some compensatory emphysema of the right lung field is noticed. No displacement of the heart has occurred.

The entire picture is rather classical of bronchial obstruction. No impression as to the type of obstruction is obtained by radio-graphic examination."

Physical chest findings: Limited expansion of left chest, decreased vocal fremitus, impaired percussion note, diminished intensity of the breath sound over the left chest. White blood count 21,000. Urine analysis, negative, no temperature.

Laryngoscopy was performed at Bell Memorial Hospital. Direct examination

revealed a highly congested larynx, congestion extending over the vocal cords into the trachea, some tracheal edema. During the examination, the patient coughed up a dram or more of thick tenacious pus from the left bronchus. Bronchoscopy was not performed, because of acute inflammation of larynx and trachea, until further *x-ray* study had been made.

December 30, 1929, *x-ray* report showed "the lung field of normal transparency, diaphragmatic excursion is equal to the average and other changes reported at previous examination are not observed."

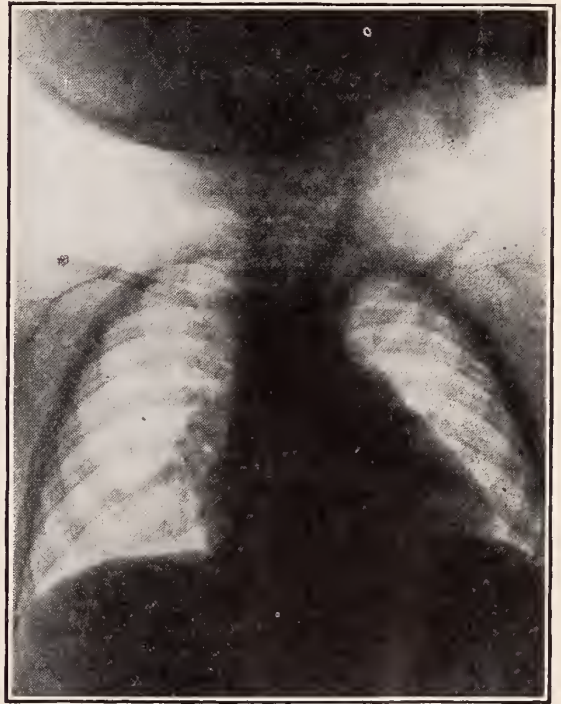


Fig. III

The third *x-ray* plate shows an entirely different left lung, which had been entirely blocked by the thick tenacious secretions from the larynx and trachea.

The patient left the hospital at the end of forty-eight hours, with no recurrence of symptoms, and no temperature.

SUMMARY

This type of case certainly indicates the wider field of usefulness of the laryngoscope and bronchoscopy; not only as a diagnostic instrument, but as a therapeutic measure in bronchial obstruction whether due to foreign bodies, chronic

bronchitis, bronchiolectasis or pulmonary abscess. The bronchoscope is used to examine the bronchi, to dilate constricted areas, for aspiration of accumulation of suppurative material in bronchi, irrigation of bronchi, instillation of medicine, or removal of specimen for biopsy, and in the diagnosis and treatment of certain types of asthma. Sweet of Cornell says that in lobar and bronchial pneumonia the pneumatic crisis can be promptly precipitated by bronchoscopic aspiration.

— R —

The Indwelling Ureteral Catheter In Renal Infection

CLINTON K. SMITH, M.D.

Department of Urologic Surgery

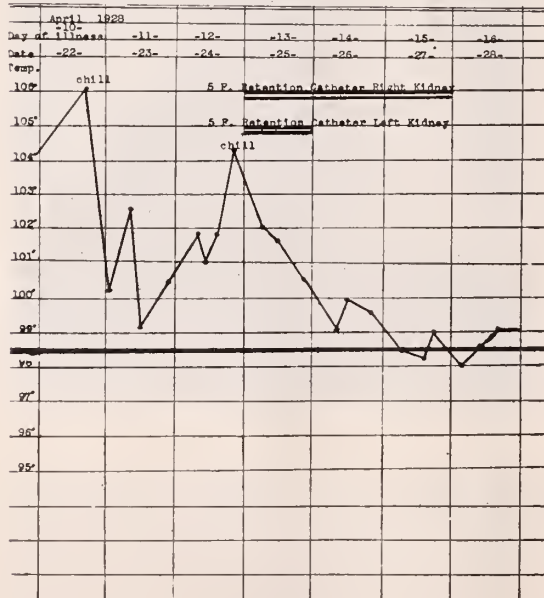
It has long been a well recognized fact that retention of urine in the bladder fosters the development of cystitis. Furthermore, infectious cystitis associated with retention shows stubborn resistance unless the treatment includes proper bladder drainage.

and efficient solution of the bladder retention problem in these cases.

In view of the favorable results obtained with the indwelling bladder catheter, it is only a logical sequence of reasoning that we should turn to this plan in dealing with infection of the urinary tract above the bladder, particularly when clinical and experimental studies have convinced us that in most instances we are confronted with identically the same problem.

It is neither desirable nor essential, in this paper, to enter into a technical discussion of the factors responsible for urinary retention above the bladder, except to mention that these fall into three groups, namely, strictures of the ureter, faulty ureteral innervation, and ureteral obstruction incident to pregnancy.

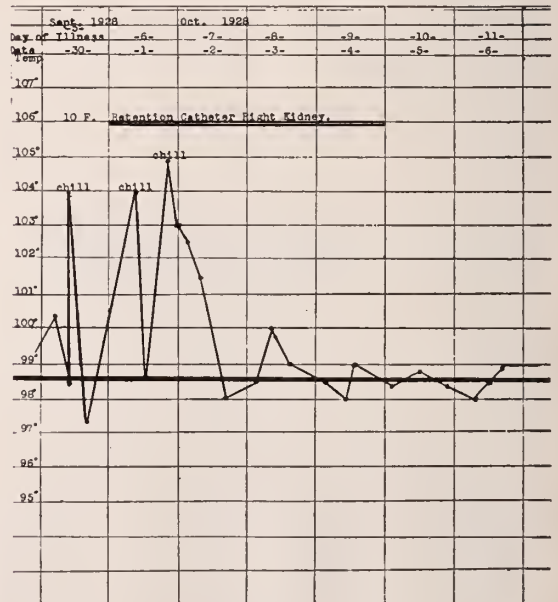
It is further patent to the experienced observer that one or more of the above factors is the underlying problem in



Case No. 1

Female child, age 18 months. Chills, fever 101-106 ten days duration. Urine loaded with pus and coccoid bacteria. Leucocytosis 35,000. Prostrated. No 7F. catheters inserted and retained in each kidney. Double horizontal parallel lines on temperature chart denote period during which catheters were retained. Note steady decline of temperature. Uneventful recovery. Acute bilateral pyelonephritis.

Except in rare instances, the indwelling urethral catheter offers a practical



Case No. 2

Female age 26 years. Eleven days post partum, and ten days prior to examination this patient began to complain of chills, fever and frequency. Leucocytosis 19,000. Slight pain region right kidney. Urine loaded pus and colon bacilli, 30 c.c. retention kidney pelvis. Horizontal parallel lines indicate time period retention catheter. Note septic temperature curve, abrupt decline. Pyelitis of pregnancy. Post partum exacerbation.

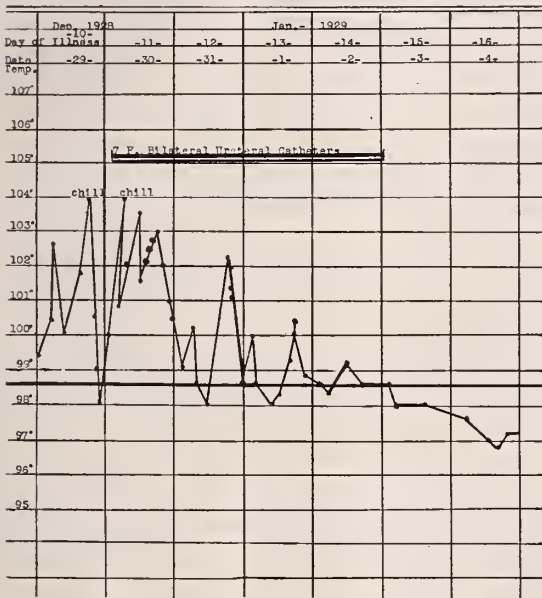
most of the cases of upper urinary tract infection, usually designated as pyelitis, pyelonephritis and pyonephrosis.

The fact that a certain number of cases of upper urinary tract infection recover with the expectant, or internal medication, plan of treatment does not disturb the above viewpoint. In those cases wherein early recovery occurs we are, to all intents and purposes, dealing with a lesser degree of obstruction, and in the other instances where recovery is delayed—and which include by far the greater number—experience with the ureteral retention catheter is convincing that this plan of treatment not only materially shortens the course of the disease, but also reduces the hazard of more or less permanent renal damage from so-called back pressure.

There are two apparent objections to this plan of treatment. First, it may be contended that it is a technical procedure which can be carried out only by the

ternal medication plan, or in instances where the clinical situation is critical, with chills and high temperature. There is no contraindication to the introduction of a catheter into an acutely inflamed renal pelvis, providing it is not withdrawn leaving the already inflamed kidney to combat the development or aggravation of ureteral edema, which is probably already present and which is increased by the passing of the catheter.

Second, sentimental objection may be raised on the grounds that this plan of treatment is a distressing and dangerous procedure. Personal experience in a wide variety of cases is convincing that the retained ureteral catheter in calibre up to 16 French is well tolerated over periods of five to ten days and that the distress incident to the presence of the catheter is more than counterbalanced by the relief from fever, chills or renal pain. And further, that although the ages of these patients have ranged from eighteen months to sixty-five years, in no instance were there any ill effects noted. The appended brief case histories with accompanying temperature charts showing the results of the indwelling ureteral catheter were selected as representative of the several types of cases in which this procedure has proven its usefulness.



Case No. 3

Female age 48 years. Chills, temperature 101-104, ten days duration, following influenza. Patient prostrated, semi-comatose, tongue dry, uremic. Leucocytosis 13,000. Slight pain and tenderness region kidney. No. 7 F.F. catheter inserted and retained in each kidney. Urine contained pus and coccoid bacteria. Residual urine 10 c.c. each kidney. Horizontal parallel lines indicate time period, retention catheters. Note steady, progressive decline of septic temperature curve. Mental condition cleared. Normal convalescence. Acute pyelonephritis following influenza.

cystoscopist. While this cannot be denied, it does not seem a valid objection in view of the benefits obtained in cases which do not respond readily to the in-

R
Richter's Hernia With Intestinal Obstruction

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In 1778 Augustus Gottlieb Richter described a type of hernia which he called "the small rupture." It is characterized by a herniation or pinching of a portion of the circumference of the gut wall, which does not entirely obliterate the lumen. This type of hernia has been variously spoken of as partial enterocele, masked hernia, lateral pinching of intestine, lateral enterocele or nipped hernia, and sometimes Lavater's hernia.

It is said that partial enterocele was first observed by Fabricius Hildanus in 1598 and later by Lavater in 1672. Apparently Richter was the first to accurately describe the hernia, and hence it usually bears his name. Littré, in 1700,

mistook a hernia of Meckel's diverticulum for partial enterocele and the French now frequently speak of it as Littré's hernia. This error was not definitely corrected until more than a century later when Johann Meckel described the diverticulum.

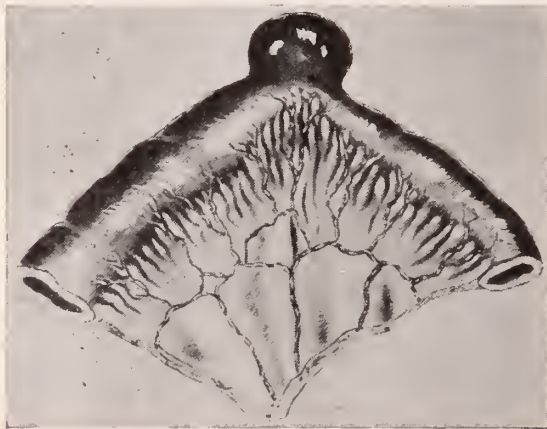
The following very typical case of Richter's hernia is here reported: B. W., white female, age 65, was admitted to the Surgical Clinic of the University of Kansas, January 18, 1930. Her chief complaint was abdominal pain and vomiting. The present illness began 3½ days before admission, following the noon meal. She described her pain as "cramps in the pit of stomach, coming in waves." One hour after the onset of her pain she took a dose of calomel, which made her vomit. She has been vomiting since that time, whenever she has taken anything by mouth. There has been no fever. Her bowels have not moved since the onset of her trouble. Examination on admission showed slight abdominal distention with occasional visible peristaltic waves. Gurgling sounds could be heard on auscultation. There was no evidence of hernia or any abdominal mass. x-Ray of

much within the next two hours, and the pain in her abdomen ceased. From the hour of admission, which was 4:00 p.m., until the following noon, she received 7,000 c.c. of normal saline solution. During the entire time she did not vomit, and distention, which was only slight, did not increase. About 1:00 p.m. on the following day she began to complain of recurrence of severe pain and vomited. It seemed evident that she was growing worse, and a diagnosis of complete intestinal obstruction was made. She was immediately taken to the operating room for an enterostomy. A right rectus incision was made under local anesthetic. Bloody fluid was found in the abdomen which suggested the possibility of strangulation of the gut. Because of the possibility of strangulation, it was thought best to explore the abdomen. The local anesthetic was then supplemented by gas oxygen and ether and the wound enlarged. The intestine was much distended and there was a loop which appeared to be fixed in the pelvis. In attempting to free this loop, the gut was torn and the peritoneum soiled with intestinal content. Through the torn opening a tube was placed and an enterostomy completed by the Witzel method. A drain was placed deep in the pelvis and the wound closed.

Following the operation she grew rapidly worse. There was no drainage from the enterostomy. Death resulted 13 hours later.

An autopsy was obtained and a partial enterocele or Richter's hernia of the lower ileum was found fixed in the right femoral canal.

One of the best discussions of Richter's hernia is that of Sir Fredrick Treves¹ published in 1887. He collected 53 cases and noted that the condition is more common in women in the fifth decade of life, and that the majority occur as femoral hernias on the right side, involving usually the lower ileum. He further noted that the partial enterocele occurred more frequently in old than new femoral hernias. In these cases collected by Treves the operative mortality was 55 per cent and the non-operative 75 per cent. Spontaneous cure may result with



• Drawing of Richter's Hernia described in this case.

the colon with barium enema was negative for any obstruction. Urinalysis and blood counts were both normal. Blood chemistry showed chlorides 390 mgs. per 100 c.c., urea nitrogen 44 mgs. per 100 c.c., and CO₂ combining power of 43.8 volumes per cent. Soon after her admission her stomach was washed out and normal saline started by hypodermoclysis. She appeared improved very

the formation of a fecal fistula. Of the 53 cases 38 were femoral, 13 inguinal and 2 ventral.

It has been noted that when $\frac{2}{3}$ or more of the circumference of the gut is involved in the strangulated portion, water will not pass through because of the acute angulation. In this type of hernia gaseous distention is not usually marked. The constriction may be water tight and not air tight, and hence the possibility of gas passing through the angulation. Low² noted that vomiting was less frequent, less severe, often of late onset and rarely feculent. In general the symptoms are less severe than in other types of bowel strangulation. The bowels may be open and even a persistent diarrhoea has been known to exist. He reported 4 cases, all of which were women with right sided femoral hernias. Pain is usually referred to the epigastrium or umbilical region and is of little value in localizing the hernia.

SUMMARY

It is interesting to note how nearly the findings in the reported case conform to the rule. The patient was a woman, past 50 years of age, with a right sided femoral hernia, not evident on examination and without a history of hernia. The lower ileum was involved. The diagnosis was not made during life. Vomiting and distention were less marked than in the usual obstruction of the ileum. The location of the pain, which was above and to the left of the umbilicus, did not aid in locating the lesion.

An observation was made in this case that may be made in other cases of acute intestinal obstruction in which large quantities of sodium chloride solution are given. The vomiting ceased for nearly 24 hours after the treatment. This evidence of general improvement may lead one to a false conclusion in regard to the patient's condition, and cause harmful postponement of operation.

Although Richter's hernia, causing strangulation and obstruction of the small intestine is quite unusual, the condition is sufficiently common to be kept in mind when symptoms of acute intestinal obstruction develop in a woman past fifty years of age in whom the

cause for the obstruction is not evident. A careful search should be made for a small femoral hernia in all suspected cases.

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Three Cases of Tularemia

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Since the first case of *B. tularensis* infection in man was reported in 1907¹ there have been an increasing number of cases recorded in the literature. Francis adequately reviewed the literature on tularemia in 1925² and again in 1928.³ One case in Kansas was reported by Gillette in 1927⁴ and since that time eight cases have been reported to the Kansas State Board of Health.⁵ We have been able to find record of 1,329 cases reported since 1928. Many of these occurred in a large epidemic in Russia in 1928.⁶ Although prior to 1927 tularemia was supposed to be a disease which occurred only in North America and Japan, laboratory infections have occurred in England and recently there have been some cases in South America. It is difficult to say whether the disease is becoming more common or whether it is only more frequently reported. It is well known that infections caused by organisms belonging to the hemorrhagic septicemia group tend to increase in frequency over a number of years and then decrease spontaneously. This is well exemplified in the occurrence of epidemics of bubonic plague and it might very well be since *B. tularensis* is a closely related organism that the incidence of tularemia would resemble that of plague. In plague a reservoir of infection resides in rats and other rodents and epidemics in man are coincident with epizootics in animals. In tularemia the animal reservoir exists in the wild rabbit and other closely related rodents. The three cases here reported were confirmed serologically and *B. tularensis* was isolated from one of the cases. All of the cases were clearly infections from

wild rabbits, the common wild cotton tail of Eastern Kansas.

Mr. and Mrs. I. were seen November 29, 1928. Mr. I had a draining sinus in the epitrochlear region. This had been preceded by swelling and pain in the epitrochlear glands which had supplicated and been drained. He had a healing sore on the second finger of his right hand and the axillary glands on his right side were red and swollen. Mrs. I. had a sore on her left thumb which was practically healed but there was a chain of hard and swollen lymph glands extending from the middle of the flexor surface of the forearm into the epitrochlear glands. The axillary lymph glands were palpable. The history of these two people is as follows: October 20, 1928, Mr. I. had dressed several wild cottontail rabbits which he had shot. One rabbit had been discarded because of spots on the liver. These rabbits were cooked by Mrs. I. Two or three days later both Mr. and Mrs. I came down with what they called "flu." They had fever, prostration and sweating and were ill for about ten days. At the same time they noticed soreness of the axillary glands and the beginning of a felon on Mr. I's. finger. Mrs. I. already had a sore on her thumb which no doubt served as a portal of entry for *B. tularensis*. These so-called felons drained but did not heal well. They became alarmed because of the persistent swelling and soreness of the regional lymph glands. They then consulted a physician (AMF). On November 29, a small amount of pus was obtained from the draining epitrochlear gland in Mr. I's. arm. Pus was also aspirated from a swollen gland near the median basilic vein from Mrs. I's. arm. Blood from both was also obtained from the arm vein. This was sent to Washington to be tested for the possible presence of agglutinins for *B. tularensis*.

The pus from both cases was examined in direct smears stained with carbolfuchsin and Wright's stain but only disintegrated pus cells could be seen. The pus was emulsified in saline and injected subcutaneously into guinea pigs and a rabbit. The animals survived several weeks. The blood from both cases

was reported from the Hygienic Laboratory to show positive agglutination in a dilution of 1-1280. This with the history and symptoms might be considered to have established the diagnosis of tularemia. An agglutination test on both serums was made in our laboratory using *Br. melitensis* because of the cross agglutination which is reported between this organism and *B. tularensis*. Mrs. I's. serum agglutinated *Br. melitensis* at 1-80 and Mr. I's. was doubtfully positive at 1-10. December 5th, the patients were again seen. Mrs. I's. glands were smaller and less painful. One of the axillary glands in Mr. I. was ready to lance. This was done and about 15 c.c. of pus was evacuated. This material was ground in a sterile mortar, strained through gauze and inoculated into guinea pigs but with entirely negative results. Francis² reports that *B. tularensis* can seldom be recovered by animal inoculation longer than one month after the onset of the disease. The material in these cases was first collected approximately six weeks after the onset of the infection, and this no doubt accounts for the negative inoculation results. Francis reports that the organism has been cultured only once directly from human lesions though it can be cultivated from the blood and organs of infected animals rather easily by using the proper media. The organisms survive for as long as three weeks in pus mixed with an equal part of glycerine and for six weeks in spleen from an infected animal when the spleen is immersed in glycerine. The diagnosis of tularemia was based on the history of dressing rabbits, the local lesion on the fingers and the acute febrile attack accompanied by persistent lymphadenitis of the regional glands together with the serological findings.

The third case is that of a young negro, aged twenty-six, first seen January 27, 1929. He had been hunting January 5, and had cut the index finger of his left hand on a sliver of bone while dressing a rabbit. He became ill January 9, and soon after noticed that the cut on his finger did not heal. He was ill and in bed, complained of fever, lack of appetite and prostration. On January 27,

his blood count was as follows: Hemoglobin 70-75 per cent; red cells, 3,440,000; white cells, 3,800; neutrophilic leucocytes 57 per cent; small lymphocytes 35 per cent; mononuclears 5 per cent; eosinophiles 1 per cent; basophiles 2 per cent; normoblasts 2 per cent; poikilocytosis and anisocytosis and polychromatophilia were marked.

A sample of blood was sent to the Kansas State Board of Health Laboratory and to the Hygienic Laboratory at Washington to use for an agglutination test with *B. tularensis*. Both reported positive for *B. tularensis*, the latter in a dilution of 1-1280. Wassermann and Kahn tests were made because of the anemia shown by the patient but both were negative. The agglutination test with *Br. melitensis* and *Br. abortus* was negative. A swab taken from the draining sore on the finger was rubbed on the plucked abdomen of a guinea pig. The pig died two days later with gray swollen lymph glands in the inguinal region, spotted liver and spleen. The appearance of the liver and spleen is very characteristic in infections with *B. tularensis*. They are thickly covered with small grayish white spots which on section are found to be areas of focal necrosis. Two guinea pigs and three rabbits inoculated with material from the spleen, lymph glands and liver of the original pig, all died with typical lesions within one week after inoculation. The organism was cultivated from the hearts blood of one of the inoculated guinea pigs and has since been maintained on cystine dextrose blood agar. This organism causes the death of a guinea pig in two or three days when injected subcutaneously in very small doses. It will be noted that this material was collected from the patient about three weeks after the infection took place. An agglutination test made with the serum collected from the patient January 27, was set up against the following strains: the strain cultivated from the patient, known as AT 29; a supposedly avirulent strain from Dr. Shaw at the University of Virginia, BT 29 and one received by the Kansas State Board of Health from Dr. Francis, CT 29. His serum agglutinated

all these strains in dilutions of 1-500. BT 29 and CT 29 were tested for virulence by the inoculation of 5 c.c. of a suspension from a slant culture. The pigs receiving CT 29 died in eight days with typical lesions. The pigs receiving BT 29 survived, showing that CT 29 is not entirely avirulent. The patient was again seen March 10, 1929. He had gained about ten pounds and complained now only of a slight weakness and pain in the chest over sternum and in the region of the spleen. The sore on his finger was entirely healed. The glands in the epitrochlear region on his left arm and a chain extending up into the axilla were hard and about the size of a lima bean but not tender. There was a gland in the axilla which was hard, somewhat tender and about the size of a small hen's egg. The spleen was somewhat enlarged and tender. His blood count at this time was as follows: Red cells, 4,052,000; hemoglobin, 80 per cent; white cells, 9,600; neutrophiles, 66.5 per cent; small lymphs, 25.5 per cent; mononuclears, 5.5 per cent; eosinophiles, 1.5 per cent; basophiles, 0.5 per cent. There were a few poikilocytes and several normoblasts. The agglutination tests with AT 29 gave a good positive at 1-250 and slight positive at 1-500. The organism isolated from this case is still virulent for guinea pigs and rabbits even when applied to the uninjured skin.

There are several points of interest in this second case. So far as we can ascertain no anemia has been reported in connection with tularemia, although from the protracted course of the disease an anemia might be expected. Usually a leucocytosis of moderate extent is reported but in this case there was a leucopenia. An attempt was made to account for the blood picture on some other grounds but without success. The physical findings and history seemed to show no evidence of any disease other than the present infection with *B. tularensis*.

An attempt was made to ascertain if anyone had noticed an epidemic disease among the wild rabbits in this vicinity but apparently nothing of the kind had been noticed. The disease is probably

endemic among the rabbits of eastern Kansas.

Three cases of tularemia of the ulceroglandular type with typical serological findings are reported. *B. tularensis* could not be isolated from the first cases probably because of the length of time which had elapsed between the time the infection took place and the time the culture was taken. A typical strain of *B. tularensis* was isolated from the third case. Francis has pointed out the similarity between tularemia and sporotrichosis. This similarity was very evident in the first two cases here reported. Tularemia has also been confused with tuberculosis and microscopically both human and animal lesions closely resemble tubercles. The history of contact with rabbits or other rodents and the serological findings are important in making a diagnosis. Whenever possible animal inoculation should be done during the first three weeks of illness. Because of the fact that material from an infected animal spleen or in pus will keep well in glycerine it is always possible to send in such material to a laboratory for identification. The mortality in human cases is low (3 per cent) but the infection is extremely disabling and long drawn out. The first two cases still had draining glands in January, 1929, and Mrs. I's axillary glands were still draining in January, 1930. The third case had glandular swelling and complained of weakness two months after infection.

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Some of the Important Signs and Symptoms In the Diagnosis of Brain Abscess

O. JASON DIXON, M.D.

In a recent lecture by Robert Lund on "The Diagnosis and Differential Diagnosis of Otogenous Brain Abscess," he states that the chief reason of the high mortality in brain abscess is the fact that of all the otogenous complications brain abscess most frequently escapes being recognized in due time. In

a total of fifty-four patients with brain abscess, from the Otological Department of the Municipal Hospital in Copenhagen, which Lund studied and reported in detail, only twenty-nine were diagnosed and evacuated (51 per cent); nineteen were not diagnosed (34 per cent); six were diagnosed, but not evacuated (11 per cent). Of the twenty-nine patients diagnosed and operated, only ten recovered (18 per cent of the total number of cases). He considers this material a universal expression of what is being done for brain abscess.

It is obvious that the chief factor of importance in the management of brain abscess is the diagnosis. As I see it, the obstacles to overcome in the diagnosis of brain abscess are first, that it is a problem which may confront any physician in any field of medicine; second, that the signs and symptoms are about as clear cut as any other lesion in the body; third, that a thorough knowledge of neurological anatomy may be of considerable help in the diagnosis of brain abscess, but is by no means essential. Absence of knowledge of neurological anatomy does not excuse a failure to diagnose brain abscess, but it is probably the most frequent reason for the failure to recognize this lesion.

The ideal condition would be for the neurologist, or brain surgeon, to have in his care a brain abscess patient from the onset of the primary symptoms. This, of course, seldom happens, and, therefore, it behooves all of us to know something about the early signs and symptoms of brain abscess.

ETIOLOGY

Korner first expressed the principal rule that otogenous brain abscess is practically always localized in the proximity of the suppurating middle ear and mastoid process, *i.e.* the temporal lobe or cerebellar hemisphere on the same side. He has also shown that eighty-five per cent of all brain abscesses are otogeneous in origin. v. Bergman insists upon the claim that the diagnosis of brain abscess can be made only where a possible primary focus is demonstrated. Lund has shown that fifty per cent of all otogenous brain abscesses are due to a

cholesteatomatous middle ear lesion. Therefore, with these well substantiated facts, it is of the utmost importance that we try to determine the age and location of the primary focus, and its subsequent history. It is quite obvious that the above facts can be determined by any physician, without the aid of very much special mechanical diagnostic equipment.

Dandy has recently brought out the advantages of late surgical interference in the treatment of brain abscess. I heartily agree with his opinion in the matter. However, late surgical interference does not imply that there is advantage to be gained in a late diagnosis. It has been demonstrated that a fully developed brain abscess may be of only fourteen days duration, and there is one reported case of an otogenous brain abscess of sixty-eight years standing. It should also be borne in mind that a fully developed brain abscess, that has been latent for years, may suddenly manifest most violent and fatal symptoms. Trauma often plays a part in such cases. Generally, however, the latent period may be said to last from two to six weeks.

DIAGNOSTIC SYMPTOMS

Diagnostic symptoms may be divided into initial, latent, manifest and terminal. These may all vary, and usually overlap. The patient is usually diagnosed in the manifest or terminal stage, at which time he has two classes of symptoms, which may be divided into general or systemic and local or brain symptoms. Under general we have a marked lethargy, sallow complexion, emaciation, loss of appetite, constipation and subnormal fluctuations of temperature of about two degrees. The most characteristic finding in the history of the brain abscess patient is the negative stage, *i.e.*, he has no complaints, except one—headache—which falls under general brain symptoms, and, unless he is in a late, or terminal, stage, headache is the most constant and most severe symptom. This headache, which a brain abscess patient complains of, is unlike any other type of headache, except possibly that of brain tumor. It is unrelieved by any form of medication, it is constant;

gets progressively worse, and, were it not for the lethargic, toxic state into which the patient rapidly sinks, it would no doubt be the means of rescuing him from his disastrous condition more frequently than any other symptom. Other general brain symptoms which are usually present are vertigo, sudden vomiting, slow cerebration, bradycardia, photophobia, and last, and of most infrequent occurrence, optic neuritis.

Since this paper does not deal with the localization of brain abscess, that part will not be considered. However, cranial nerve lesions do play an important diagnostic part, and, particularly is this true, in lesions of the third, sixth and seventh cranial nerves of uncertain etiology

SEROLOGY

The patient with a brain abscess usually has about 12,000 leukocytes, and a moderate decrease in the red blood cells and hemoglobin. As the disease progresses. The spinal fluid cytology varies with the different stages of the abscess. As I have already discussed this subject under a separate paper, I shall only mention the chief diagnostic aid in the study of spinal fluid *i.e.*, whether the patient has a so-called sterile, or a septic meningitis. The pressure readings of the spinal fluid, and the reaction of the patient following these lumbar taps, is, in some cases, of striking importance. It should be borne in mind that in every patient with a brain abscess, the primary stage is closely associated with a diffuse meningitis, and the local meningitis, particularly in abscesses of otogenous origin, may, at the onset, present such a confusing picture as to make differential diagnosis impossible.

SUMMARY

The following tables were made up from a small series (twenty-five) of brain abscess patients that have come under my observation. The symptoms and signs were taken from recorded observations and histories that were made by the interns, the nurses and myself. These tables are in themselves a summary of the various signs and symptoms which these patients with brain abscess had.

AGE INCIDENCE:

10-20 years	9
20-30 "	4
30-40 "	6
40-50 "	1
50-60 "	3
60-70 "	1
Unstated	1

SEX:

Male	15
Female	10

PREVIOUS MASTOIDECTOMY:

Following mastoidectomy	14
No mastoidectomy	11

CHOLESTEATOMATOUS INVOLVEMENT:

Cholesteatomas	4
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RESULT:

Recovered	6
Died	19
Autopsies	9

PRIMARY FOCUS:

Draining ears	14
Eyes	1
Infection of antrum from tooth extraction	1
Influenza	1
Lungs	2
Osteomyelitis of hip with dural involvement	1
Frontal Sinus	3
Unstated	2

GENERAL SYMPTOMS:

Choking	
Convulsions	
Delirium	
Difficulty in swallowing	
Diplopia	
Disorientation	
Dizziness	
Draining ears	
Drowsiness	
Earache	
Epistaxis	
Headaches	
Holding of head to side	
Instability	
Motor Symptoms	
Numbness of face, mouth, tongue, extremities	
Paralysis	
Rigidity of neck	
Slowness in response	
Vertigo	

FORMS OF HEADACHE:

Frontal	6
Frontal and occipital	1
Frontal and parietal	2
General	4
Occipital	2
Unstated as to type	1
Not recorded	9

FORMS OF PARALYSIS:

Facial	5
Facial and Side	5
Side	4
Partial	1
None	10

	Not Diagnosed	Diagnosed Not Evacuated	Diagnosed and Evacuated	Total
Cerebellar	2	8
Abscess left temp. lobe	2	2
Abscess right temp. lobe	...	1	3	4
Abscess multiple	...	1	...	1
Abscesses dural	...	2	1	3
Unstated	1	2	4	7

Scientific Jackasses

PARKE WOODARD, M.A., M.D.

Assistant Professor of Physiology

Not so long ago an old doctor said in my hearing that he had advised his son, who wished to study medicine, against going to one of our leading medical colleges because this institution made "scientific jackasses" of its students. On further questioning he explained that people entered medical school to learn how to treat the sick but that while there they spent their time manipulating mechanical trinkets such as gas analysis and electrocardiographic apparatus, occupations of quite doubtful value for most doctors in view of the fact that not many of them would have access to such instruments later on in practice. This old doctor is only one of many who are of the opinion that now-a-days we are trying to make the study of medicine too scientific and that instead of training students to use their own senses in the detection and treatment of disease we are telling them to rely on machines, solutions and test tubes to make diagnoses and do their thinking for them. Even our first and second year medical students are of the notion that they devote too much time to stimulating frog legs and producing colored precipitates in test tubes, and have decided to have done with such nonsense in the easiest way possible in order to go on to the clinical subjects where "real medicine" is learned.

Perhaps some of the difficulty lies in a failure to appreciate what scientific medicine really is. To most people a scientist is one who produces reactions in test tubes, takes readings from dials and indicators and in general works with apparatus or makes inanimate material behave properly. The idea of subjecting a variable organism like a sick person to the working of an invariable machine or chemical reaction for the purpose of diagnosis is repugnant. In some way science when concerned with medicine has come to mean laboratories and apparatus entirely divorced from diseased individuals, and the "scientific physician" is regarded as one who more or less cold bloodedly looks into his micro-

scope and test tubes without much thought of the variable human being he treats. If his apparatus be taken away from him he is lost and ineffective.

If the above is "scientific medicine," then of course the less of it we have the better, but there are some of us who hold different ideas. To be scientific is to be willing first to carefully collect all the information possible pertaining to a problem; and secondly to critically evaluate and interpret such data. In the practice of medicine the problem is presented by the sick individual and exactly the same careful observation and critical judgment should be brought to bear in dealing with it that the chemist uses with his solutions and test tubes. Just because the physician is confronted by processes many times more complex is no reason why he should be satisfied to found his conclusions on insufficient evidence and let slipshod and inaccurate methods satisfy him. The history of the advances in medicine has shown that it is only by carefully checking up that the wheat has been separated from the chaff in proposed methods of diagnosis and treatment. Accurate observation combined with critical evaluation has more than once been the key to the solution of a problem, and such procedure is a good habit for medical students to follow.

A laboratory is one of the best places to practice accurate observation. To be sure the student here sets up artificial conditions which are seldom met with in actual life but that is of advantage. By controlling all the factors involved the effect of variations in any situation may be better appreciated. The investigator has the opportunity to look in on life processes, see them at work and then by changing one or two of the ingredients to note the effect. Only by using the laboratory method can he be sure that the factor he changes produces the result he obtains—because only by this method can he keep all the other factors constant. Thus the very valuable habit of buttressing conclusions by controlled experiments is illustrated and emphasized. If this idea alone were wide spread it would save the printing every year of

thousands of pages of medical literature which at present are of no value because the authors have not taken the trouble to control their results.

Finally, a perusal of medical literature shows that a large percentage of the advances in medicine have come from the laboratories. A list of these would certainly include the discovery of insulin; the development of the liver diet in anemia; the understanding of many obscure points in nutrition; and many more. These advances are used every day now by even the most obscure practitioner but to reach this position has taken years of careful, well controlled experimentation; very often involving test tubes and solutions and sometimes involving stimulation of frog legs. A former teacher of mine in medical school told me that formerly he made sport of playing with white rats with the idea of gaining any medical truth; but since the war he didn't do so. Then he was in charge of some nutrition work for the Red Cross in the Balkan States. He was surprised to learn that he could make direct use of information which had been collected from feeding experiments on white rats. Since then he has been very loath to say that even the most useless appearing scientific work is without value.

R

Repair of Complete Perineal Laceration

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The lesions commonly known as third degree lacerations or complete rupture of the perineum are, to paraphrase it, like "the poor, ye shall have them with ye always." It is their frequency that has prompted this effort.

There is no claim for originality in this discussion nor is any effort made to condemn any method that has functional results as the end-objective. There have been many techniques devised since the original was offered by Thomas Emmett, who is considered the father of modern perineorrhaphy. To those who have satisfactory techniques there is nothing to be said, but there are some who are not satisfied. This operation can readily be combined with other vaginal procedures

as trachelorrhaphy, removal of Bartholin cyst or hemorrhoidectomy. It may even be combined with laparotomy. That I say because I am of the opinion that true cystoceles are best treated by some form of uterine suspension in addition to the vaginal work. In dealing with these cases, however, one is always impressed with the rarity of cases exhibiting co-existing hemorrhoids or uterine prolapse with complete rupture of the perineum.

The practitioner who does obstetrics, whether he be a specialist or not, is directly responsible for complete laceration in one of several ways:

First, through faulty management of labor the lesion may be produced.

Second, even though the lesion be entirely unavoidable, which is quite possible, he is equally at fault if a satisfactory repair is not done.

Third, occasionally cases of pregnancy have old complete tears, and the man is not very thorough who does not do a repair at the time of subsequent confinement. It is to be kept in mind, however, that herniations through the pouch of Douglas may be present, and of course are usually not to be attacked at such times. Furthermore, those cases possessing contraindications to general anesthesia had better be postponed and handled under special anesthesia.

As a matter of fact, modern obstetrics is really a well-developed field in specialized major surgery, and can no longer be considered mere expectant midwifery.

Personally, I am very much in favor of doing these repairs, whether on old or new tears, as soon after delivery of the child as possible, because:

1. The patient is saved the trouble and expense of entering the hospital later.

2. Fresh lacerations should be repaired before infection develops.

3. It is now well known that the tissues of a recently delivered woman heal very satisfactorily.

4. If the proper technique is used the lochia is not a contraindication at all.

5. Old lacerations should be dissected up and repaired, because labor should

be quite easy in a multipara with no perineum; and therefore, she can stand prolongation of the anesthetic. Furthermore, because of the very nature of the tear any mechanical assistance at delivery is easily accomplished.

6. These operations should always be followed with a rigid diet regime for a few days.

It is better, therefore, to have the mother on a diet at the time before the milk comes in, than later when the baby really needs it.

PREOPERATIVE PREPARATION

1. Digitalization of the heart in suspected or proved cases of cardiopathy is of great value.

2. Hospitalization is not entirely necessary but the nearer the conditions approach that of a hospital the easier it is for the operator both from the mental and physical standpoints.

3. The anesthetist should be chosen with as great care as if for a laparotomy.

4. If done immediately after delivery the rectum and lower bowel should be irrigated clean with soap solution.

5. Pituitrin, one cubic centimeter, is given intramuscularly in the left upper arm as soon as delivery is imminent, not to assist in expulsion at all, because the child is practically born, but to make the uterus clamp down on the placenta and prevent bleeding during the operation or perhaps expel it entirely by the time the cord is dressed and other preparation made.

6. Catheterization should always be done, whether in conjunction with obstetrical delivery or as a regular secondary repair, because the urethra pierces both layers of the triangular ligament, which is considerably handled during the operation, and frequently contributes to urine retention during the early convalescence.

Now as to post operative cases one seeks to do two things:

First. Secure comfort for the patient.

Second. Promote healing of the tissues.

For the average case we have adopted the following instructions to the nursing attendants:

1. Vaseline gauze to external suture line constantly for first twenty-four hours.

2. Give opiates freely.

a. Morphine hypodermically or morphine with lead acetate per rectum as often as needed to control gas pains or tenesmus.

b. Tincture of opium m.x.t.i.d. daily.

3. Post operative catheterization every 12 hours, if needed, until the edema of the parts is down, when the patient may be sat up erect.

4. Diet to be (RRW) liquids or without residue.

5. No milk, enemata nor catharsis.

Now as to the first enema, opinions (RKW) vary from the 4th to the 10th day. I recall one case with troublesome distention on whom we passed a rectal tube the second day without harmful results. The patient's condition is the best indicator up to the 10th day. But always the cleansing enema is preceded by an oil retention enema and if possible mineral oil is given in large doses by mouth every 6 hours for one day beforehand.

The average case when combined with delivery is discharged from the hospital not later than the 15th day.

—R—

Chorea In Children

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Chorea is probably a manifestation of rheumatic fever, a symptom rather than a disease entity. It is a self limited condition and seldom is there an opportunity to study the anatomical changes at necropsy. In the few cases which have been studied the lesions consisted of perivascular cellular infiltrations in the region of the basal ganglia, the neostriatum and the corpus striatum similar to those found in epidemic encephalitis.

The disease is more frequent in early life, about 80 per cent of the cases occur during the period between 5 and 15 years. The symptoms of rheumatic fever in children differ somewhat from those in adults. In children it usually begins with a slight fever, throat infection and often a cervical adenitis. The

duration of the fever and throat symptoms are irregular. They may be very slight and subside in a few days, to be followed in a week or two by endocarditis, chorea or both. On the other hand swollen painful joints, muscle pains occurring as leg-ache while in bed at night, the so-called growing pains, may precede the nervous or cardiac manifestations.

In 72 cases¹ that I have followed the seasonal incidence was marked, about 50 per cent occurred in the months of March, April and May. They were about equally divided as regards sex although the condition is said to be more common in girls.

Although the tonsils are regarded as the portal of entry of the infection, in 12 of the 72 patients in this series, the tonsils had been removed months or years before chorea appeared.

Recurrences are common, 12 patients had a return of the symptoms within a year following the first attack. Several had more than two attacks, although the tonsils and adenoids had been removed during the first hospitalization.

Cardiac complications, a mitral murmur in each instance was found in 20 of these patients (about 28 per cent).

DIAGNOSIS

The diagnosis as a rule is not difficult. Before the active symptoms are noticed, the parents will usually observe a clumsy attitude in the child especially at the dinner table. Over-reaching and dropping the eating utensils are commonly reported. In a few days facial grimaces and aimless movements in one arm and shoulder make their appearance, and these purposeless movements, more marked while the child is observed, soon spread to the other side.

TREATMENT

The general plan of treatment is to remove the child from the usual surroundings, preferably to the hospital, and provide absolute rest in a quiet, darkened room. He should be free from all external stimuli for about two weeks and with as few visitors as possible. Sedatives may be necessary during the worst stages and when this period is passed, the tonsils and adenoids if present should be removed and likewise den-

tal infection. The tonsils should be removed without waiting for the residual symptoms to disappear as these may persist for three months. The presence of a mitral murmur is in itself no contraindication to an anesthetic, provided the process is not acute, and signs of decompensation are not present.

We have tried a great many drugs and therapeutic procedures. Spinal puncture, the intraspinal administration of the patient's serum, horse serum, specific horse serum obtained after injecting the streptococci from chorea patients into horses, all have been used in this series but the results have not justified their continued use. Neoparsphenamine was used in four cases without notable improvement.

Sodium bromide and hydrated chloral in suitable doses gave relief during the period of great restlessness. Sodium salicylate in large doses given per rectum in about one ounce of starch water, 60 to 120 grains, was used early in the disease in the few patients having fever or any active manifestations of rheumatism, such as joint pains or a recent cardiac involvement.

One of the most satisfactory sedatives used was magnesium sulphate in 25 per cent solution. It was given once or twice daily in 15 c.c. doses subcutaneously, and in some cases was given for three weeks.

Phenobarbital in doses of three-fourths of a grain, once or twice daily proved to be a very satisfactory sedative, when it is necessary to treat the child at home. I believe that the quiet room, absolute rest in bed, phenobarbital in the most violent stage and Fowler's solution of arsenic for the residual symptoms are the best methods of treatment. In the hospital the long period of very mild choreic symptoms seems to be benefitted by two or three intravenous injections of typhoid vaccine, 20 to 40 million organisms at a dose, repeated in four days. The febrile reaction that follows certainly brings about a cessation of symptoms, but this procedure should be reserved for the patient in the hospital.

After a trial of most of the drugs and therapeutic procedures that have been advised, we have discarded all except a

few of the simple procedures, viz:

1. Rest in bed in a quiet darkened room for at least three weeks with no visitors, books or anything to hinder complete rest and relaxation.

2. For the control of symptoms during the acute stage, phenobarbital once or twice daily.

3. Warm tub bath when needed to induce relaxation and sleep.

4. Fowler's solution of arsenic after the most active symptoms disappear, for a period of two or three months.

5. Removal of tonsils and adenoids and dental infection as soon as the active symptoms subside.

5. The patient should not be kept in bed until all symptoms clear up. Those with the residual symptoms can be taken out in a wheel chair in fine weather, or allowed to walk about quietly when such effort is not tiring.

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—R—

Safeguards In Spinal Anesthesia

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During the last few years spinal anesthesia has become again exceedingly popular. The reasons for this renewed interest are newer methods, improvement in technic, controllable anesthesia, and the prophylactic use of ephedrin against vasomotor collapse. Because of its present wide usage relatively definite conclusions may be drawn, concerning its usefulness, reliability and dangers.

Sise¹ recently estimated that the death rate in Greater Boston, during a period of one year, amounted to 1 in 100 in spinal anesthesia. At the Lahey Clinic there occurred one death in 950 cases. Babcock's² average is one death in 1,000 cases. Rygh and Bessessen,³ from a review of the literature, concluded that there was one death in 3,345 cases. The most important factors accounting for some of the high death rates at the present are; the inexperience of the anesthetists with this type of anesthesia, the poor selection of patients, lack of knowledge of physiology, overdosage, the slow, inadequate and indecisive treatment of patients during anesthesia, and to a certain

extent the more general use of this anesthetic for abdominal surgery.

The contraindications to spinal anesthesia are relative. Any patient whose vitality is at a low ebb, whether it be from long illness, sepsis, old age, shock, hemorrhage, or a moribund state is not a very suitable case for spinal anesthesia. In the extremely sick, when local anesthesia cannot be used, an inhalation anesthesia may sometimes be preferable to a spinal anesthesia. In the presence of central nervous system disease, especially of the spinal cord, most every one is of the opinion that spinal anesthesia should not be used. Low blood pressure per se is not a contraindication, since these cases are easily controlled with the proper use of ephedrin. Stout⁴ believes that spinal anesthesia is limited only by the skill and experience of the anesthetist.

There exists a difference of opinion as to the limitations of spinal anesthesia in the presence of certain pathological states. Marked hypertension associated with an enlarged heart, gastrointestinal perforation, acute peritonitis, or localized peritonitis or abscess, and strangulated hernia and ruptured appendix are some of the contraindications that are enumerated by some authors^{5, 6, 7}. Others disagree with these contraindications and recommend it in intestinal obstruction, gastrointestinal perforation, and suppurative conditions within the peritoneal cavity^{4, 8, 9, 10}. Most workers feel that spinal anesthesia should not be used for surgery above the diaphragm.

The advantages of spinal anesthesia are; a marked relaxation, no metabolic disturbances, no bad effects on the lungs, kidneys, heart or other vital structures, less postoperative distress, and less danger of postoperative respiratory complications.

For any patient showing evidence of dehydration Sise recommends the use of 1500 c.c. of saline solution plus 50 gms. of glucose given hypodermically or intravenously just preceding the anesthetic. In his experience these patients with their vascular system well filled with fluid respond more effectively to treatment and are more resistant to a

drop in pressure. Another factor of importance is sufficient preoperative medication to allay as much as possible all mental strain and worry, as the success of an anesthetic partially depends on the psychic calm. In the Surgical Clinic of the University of Kansas the average individual receives from 3 to 6 grs. of amytal by mouth 2 hours before the operation, and morphine 1/6 to 1/4 gr. with scopolamine 1/300 to 1/150 gr. one hour later. The size of the dose depends upon the weight and the condition of the patient. In the debilitated, and especially in the aged, scopolamine is omitted and a small dose of atropine is substituted. The premedication in such patients is reduced to a minimum, so that they may not lie in stupor and inactivity for hours after operation. Another reason for giving amytal is to counteract the possibility of novocain toxicity^{11, 12}. The other important factor is the proper use of ephedrin as a prophylactic against a drop in pressure.

Chen and Smith^{13, 14} in their experimental work have come to the conclusion that ephedrin like epinephrin is a sympathomimetic drug, and that its blood pressure raising qualities are produced by its action on the sympathetic nerve endings and by cardiac stimulation through the stellate ganglion. However, De Eds and Butt¹⁵, and Tainter¹⁶ showed that the pressor action is not due to stimulation of any portion of the sympathetic nervous system, but is due to muscular stimulation. Tainter failed to see any stimulation of the stellate ganglion by ephedrin. Therefore, ephedrin like tyramine and phenylaminoethanol belongs to the class of musculo-tropic substances.

Ephedrin in physiological doses is a stimulant. In moderate doses it may become a depressant and at times may cause extrasystoles. Experimental evidence indicates that a toxic dose of ephedrin is 35 to 100 times the physiologic dose. A toxic dose may produce bradycardia, prolongation of the P-R interval, partial A-V block, nodal rhythm, ventricular extrasystoles, bundle branch block, ventricular fibrillation and death^{13, 17}. Miller¹⁸ reports the use of

ephedrin in 83 patients with varied pathological conditions. The doses administered varied from 50 to 125 mgs. Of this number he found no change in blood pressure in 8 per cent, a fall in pressure in 7 per cent. The remainder showed a definite rise in blood pressure. In a few cases, 100 to 125 mgs. doses caused extrasystoles, and one case with aortic regurgitation developed a cardiac arrhythmia six hours later. Experimentally it was found that the first intravenous injection of one milligram or more per kilogram of body weight raises and sustains the blood pressure more effectively than later injections which become more ineffective as to degree and duration of pressure elevation. Injection of small doses, repeated before the pressure has fallen from the previous injection will cause a summation in effect¹⁷. The action of ephedrin on the kidney vessels is first vasoconstriction followed by vasodilatation with a tendency towards increase in urinary output^{17, 18}.

To prevent vasomotor collapse ephedrin sulphate (Lilly) is given intramuscularly about 15 minutes before the spinal injection. Patients given a low spinal injection not extending higher than the third lumbar segment need very little if any ephedrin. However, it is best for the novice to give a small prophylactic dose of 50 mgs. of ephedrin sulphate as the height of anesthesia is not always so readily controllable and may extend a segment or two higher than was desired. Less ephedrin is needed when the Trendelenburg position is used. In a number of cases for lower abdominal work the Trendelenburg posture with the addition of 50 mgs. of ephedrin have been sufficient protection against a marked drop in blood pressure. If the patient is maintained in the level position during a high spinal anesthesia 75 to 100 mgs. of ephedrin seems to be the best prophylactic dose.

In all instances it is better to have the blood pressure taken before the spinal injection is made. One patient, age 56, in a fair state of nutrition, came under observation with a relatively negative history and physical examination except

for inguinal hernia. Eight minutes after the injection of 50 mgs of ephedrin intramuscularly there occurred a 35 mm. Hg fall in pressure and a slowing of the pulse from 72 to 48 per minute. This was an average moderate dose and yet a depressing dose for this particular individual. The operation was performed under local anesthesia. Nine days later 50 mgs. of ephedrin were again given this same patient. He did not react in the same manner, and instead of a drop in pressure there occurred a rise of 35 mm. above the normal reading. The ephedrin action is not always constant, but depends somewhat upon the condition of the patient at the time of the administration of the drug. Each individual has his own susceptibility to the drug¹⁹.

The method generally used in this clinic is the administration of 80 to 200 mgs. of novocain crystals (Metz) dissolved in spinal fluid and reinjected. The size of the dose depends upon the weight and the condition of the patient, and the type and length of operation. The height of anesthesia is determined by the selection of the interspace, the amount of spinal fluid used in dissolving the crystals, and the rapidity of injection. In a number of instances when a prolonged anesthesia was desirable, Pitkin's solution "Spinocaine" has been used with equally good results. The aim has been to adhere closely to Pitkin's prescribed technic when using "Spinocaine." Failures in spinal anesthesia are usually due to extradural injection of the anesthetic mixture. A second cause of failure may be an idiosyncrasy to novocain. Stout⁴ has advanced a technic that controls the height and duration of the anesthesia with the use of novocain and spinal fluid. He is able to produce anesthesia, lasting from 1½ to 2 hours.

After the administration of the anesthetic the patient is placed in the modified Trendelenburg position, whenever it does not interfere with the operation. The danger point lies within the first 15 to 30 minutes following the spinal injection. Patients during this period are very closely watched; the blood pressure, pulse and respiration being taken every

few minutes and recorded. In spite of the prophylactic use of ephedrin there are a certain number of cases which show a drop in pressure. If the pressure remains well within the upper third of the original level there need be little concern. Should the pressure begin to fall rapidly below this level because of previous insufficient ephedrin dosage, the immediate injection of 3 to 5 minims of epinephrin intramuscularly will usually bring up the pressure rapidly. There exists a synergistic action between ephedrin and epinephrin²⁰.

The early treatment of vascular depression is the best safeguard against vasomotor collapse. The patient during this period responds more readily and effectively to the treatment and the pressure can be kept under control by the subcutaneous or intramuscular injection of a small dose of epinephrin. Once the pressure has fallen to a dangerous level by the above methods, intravenous injections may become necessary. Babcock advises that the fall in pressure to 50 mm. systolic in an asthenic, obese or aged patient, should be immediately counteracted, whereas a drop in systolic to 30 mm. in a young and vigorous patient may require no stimulation. One of the intravenous methods of stimulation recommended by Evans²¹ is to give physiologic saline slowly to which has been added 1 minim of epinephrin to 100 c.c. solution. The other method is to give 25 to 50 mgs. of ephedrin intravenously provided excessive doses of ephedrin have not been given intramuscularly. If several doses of ephedrin have been given intramuscularly, it is preferable to administer adrenalin instead of ephedrin intravenously. Wehrbein²² in emergency, during spinal anesthesia, has used ephedrin intravenously in a few cases with good results. It is almost useless to try to restore the pressure with intramuscular injection of ephedrin as in the presence of a poor circulation its action is slow and very weak. A third method is to give adrenalin intravenously. Pearse²³ has reported two cases in advanced age with hypertension in whom 5 minims of adrenalin were given intravenously at the time of

a zero pressure following sacral anesthesia. The recovery was rapid in these aged patients with a temporary rise of pressure above the normal limits followed by a sustaining pressure slightly below their normal level. Nadler²⁴ has found experimentally that the minimum effective dose of epinephrin is two and one-half times as efficient as ephedrin.

Before the prophylactic use of ephedrin was introduced in this clinic, there was one aged diabetic patient who received the muscular injection of ephedrin while the pressure was dropping. It fell rapidly to a systolic of 40 mm. Hg and remained there. At this stage the patient received 50 mgs. of ephedrin intravenously, and the response was a striking rise in pressure to above normal within 10 minutes. Altogether this patient did not receive more than 100 mgs. of ephedrin.

It is important to use ephedrin cautiously and not to use more than is actually needed, particularly in poor risks and in cases with myocardial disease. Within the last year two aged patients developed a marked irregularity of the pulse with extrasystoles for a period of one hour following the intramuscular injection of 100 mgs. of ephedrin. Sise¹ reports two cases that received 150 mgs. of ephedrin, and in spite of maintaining an elevated pressure developed a small volume pulse, auricular fibrillation and cyanosis, resulting in death in 12 hours. Ephedrin in these poor risks was considered the deciding factor in bringing about the fatal terminations. Large doses of ephedrin when causing a marked rise in pressure for a prolonged period of time may put an overload on the diseased heart. Ockerblad and Dillon²⁵ have seen no toxic reactions following the use of 300 mgs. of ephedrin.

Before the introduction of ephedrin it was a well known fact that patients eventually recovered from their vasomotor collapse if kept in the Trendelenburg position. Labat has emphasized the importance of this position and still uses it without other stimulation. There are many references in the literature to the value of its use. It prevents the acute

anemia of the brain which results in respiratory disturbances, ranging from air hunger to respiratory failure. The brain is supplied by terminal blood vessels, that are not supported by muscles and aponeurosis as in other parts of the body. Once these vessels are permitted to collapse because of lack of blood, there may occur instant death from respiratory or cardiac failure. Should the blood supply to the brain be impoverished with partial collapse, the patient remains in a comatose or semi-comatose state lasting from 3 to 24 hours. With the use of the Trendelenburg position immediately following the injection such symptoms as pallor of the face with cold sweats and respiratory embarrassment have almost completely disappeared from the picture.

A gas machine should be at hand in case of an anesthetic failure, or in case of emergency for oxygen administration. Evans has found the use of oxygen of benefit in a limited number of cases. In cardiovascular collapse with respiratory embarrassment, evidenced by pallor, cyanosis, loss of voice, and a semi-comatose state, the inhalation of oxygen or oxygen with carbon dioxide serves as a valuable stimulant.

Babcock has outlined a treatment in respiratory depression and respiratory paralysis. With colloidal a wisp of cotton is attached to the patient's nose to indicate shallow respiratory movements. If respiration ceases the usual methods of artificial respiration should be instituted. If the compression of the chest fails to move the tidal air in the respiratory passages, then mouth to mouth insufflation with the nostrils and epigastrium compressed becomes necessary. Babcock has saved three patients by mouth to mouth insufflation.

Transient nausea, or nausea and vomiting may occur in a small percentage of patients during spinal anesthesia. Vigorous manipulation of the organs in the abdominal cavity, or traction on the mesentery may excite these symptoms. Patients may become nauseated and vomit after a sudden change in position, or after rough handling in transferring the patient from the table to the cart. Like-

wise larger doses of ephedrin may cause nausea. In nervous patients, fear may excite these symptoms. If the patient is instructed to breath deeply through the mouth or is given oxygen with carbon dioxide for several breaths these symptoms usually disappear.

When using spinal anesthesia one should have a definite method of procedure and have everything in readiness, so that valuable time may not be lost in controlling the patient's condition. When anesthesia is induced one cannot be certain that there may not be an occasional case of vasomotor collapse. Since the prophylactic use of ephedrin and the institution of early treatment during a falling pressure, no dangerously low pressures have been encountered thus far in this clinic.

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R

Mother: "Edna, why did you try to deceive Mamma and tell her you didn't eat the cake just because she didn't see you. God saw you."

Edna: "Yes, Mamma, but He didn't talk so much about it."

The Causes of Diarrhea—A Classification for Clinical Use

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In order to make a correct diagnosis and to treat satisfactorily those conditions in which diarrhea is a prominent symptom, a practical outline of the causes of diarrhea is desirable. The etiologic factors involved are numerous and complex. The outline herewith appended has proven convenient. The main divisions and main subdivisions of the causes of diarrhea are easily kept in mind, and from these groups, diagnoses may be reasoned out in detail, with no necessity of having the entire list memorized.

The commonest causes of diarrhea are: irritating foods or drugs; in conjunction with the upper respiratory infections of children; on an emotional basis; in connection with endocrine and autonomic nervous system imbalance; in old age; in disease entities such as diabetes, nephritis, pernicious anemia, and the deficiency diseases; allergy; with atmospheric changes; and due to infection or infestation of the colon with bacteria or parasites.

At the outset, diarrhea presupposes an intact nervous mechanism of the colon. If the colon were paralyzed, there could be no diarrhea in spite of the accumulation of fluid within its lumen. The nervous impulses responsible for the phenomena of diarrhea may arise either within the colon proper (intrinsic colonic stimulation), or may arise in other parts of the body (extrinsic colonic stimulation).

By diarrhea is meant the frequent passage of stools. An absolute line of demarkation cannot be drawn between normal frequency and undue frequency. There are healthy individuals whose bowels move as often as four times daily. Among the things that must be taken into consideration in determining undue frequency are whether the patient has had frequent passages since birth, if he is inconvenienced physically or mentally by his condition, and whether circumstances exist to which the frequency can be attributed. The character of the stool will throw light upon the situation in a majority of instances.

NORMAL VARIATIONS

The normal stool from a healthy individual varies according to the type of food eaten and the emotional strain to which he is subjected. With the customary articles of diet such as meat, potatoes and green vegetables, an individual whose routine consists of eight hours of ordinary work and plenty of sleep and who is contented will pass a brown formed stool about one inch in diameter. If irritating foods such as cabbage are eaten, the stool normally becomes less formed and is more frequently ejected. If the individual becomes preoccupied, the stool is less frequently passed and is hard and dry. If he is excited, frequent mushy stools may be normally ejected.

It is true that tolerance may be developed, either for extraordinary foods or for routine which would be an emotional strain to the uninitiated. Individuals accustomed to a diet of cabbage may eventually pass a daily formed brown stool without discomfort. If these individuals were then suddenly put upon a bland diet of meat and potatoes, constipation might result because they had become accustomed to the stimulating effect of cabbage. An individual may harden himself to certain routine so that it no longer becomes an emotional strain to him.

A third factor governing the stools in the healthy individual is the climatic environment to which he is subjected: No hard and fast rule can be applied here. Changes in climate may lead to either increased or decreased frequency. The change seems to be the essential factor. Tolerance here may also be acquired.

In regard to the healthy individual and foods, it must not be forgotten that drinks are also part of the diet, water in different communities contains various kinds and proportions of mineral salts which may be either sedative or laxative in action.

Having noted the variations which may occur in healthy individuals due to *food, drink, routine, peace of mind and climate*, we may proceed to the pathological conditions with which diarrhea is associated. Ordinarily, readjustment oc-

curs in the healthy individual who meets the variations in life as noted above. But occasionally readjustment is not affected, and this is often the case with individuals whose bodily and nervous constitutions are congenitally unequal to the situations that arise in life; or the situations themselves may be so trying that even the healthy, vigorous individual is eventually overcome.

As an example of the congenitally weak individual may be mentioned one type of school-teacher, thin, irritable, restless, whose exacting daily routine is not met with readjustment, but who seems to suffer with "nerves" more and more as the school season wears on and years succeed one another.

As an illustration of environmental conditions that overcome even the hardy individual may be mentioned the world war in which excellent specimens of men were wrecked by the continued emotional strain to which they were subjected.

Seldom does the diarrhea in itself cause trouble under such circumstances, although it might assume part in a vicious circle, leading to decreased absorption of food and relative starvation, which in turn would lower the physical standard of the individual.

CLASSIFICATION

Intrinsic colonic stimulation may be brought about by (1) mechanical distension of the colon, by (2) chemical irritants, by (3) infection, and by (4) tumors.

MECHANICAL DISTENSION

The colon may become distended with solid, liquid or gas. The distension is a stimulant to the colonic nervous apparatus, and if it is intact, there is a desire to go to stool.

Solid material may be either introduced from without in the form of bulky food such as agar, bran, barium, and green vegetables; or it may grow within the lumen of the intestine in the form of a tumor. Tumors of the colon which by their bulk alone might lead to diarrhea are large intraluminal lipomas, pedunculated carcinomas, and the mass formed by an intussusception.

Liquids as a cause of mechanical distension may be ingested as such or in-

troduced in the form of enemas; they may be generated in the bowel lumen from foods, and they may be excreted from the blood stream into the bowel.

Liquids ingested as such are seldom responsible for diarrhea from mechanical distension. They are usually absorbed in the upper part of the alimentary tract and excreted elsewhere.

Liquids may result from foods that were ingested in a semisolid state, but it is doubtful if diarrhea in such instances can be attributed to the mechanical distension alone. Other factors are usually responsible for the accumulation of liquid in the large bowel such as poor digestion or absorption in the small intestine, too rapid passage of food through the small bowel, or faulty absorption of liquids from the large bowel.

However, liquids excreted from the blood stream into the bowel lumen may through mechanical distension cause diarrhea. Epsom salts influence the passage of fluid from the blood into the bowel lumen; and when fluids are excreted vicariously through the colon in diseases associated with edema, diarrhea may occur.

Gasses even more than liquids, through mechanical stimulation, may lead to diarrhea. Gasses are seldom ingested in sufficient quantity by mouth to reach the colon and bring about mechanical distension great enough to cause diarrhea, even when large quantities are swallowed. Gasses usually develop in the lumen of the alimentary tract from food. While inert gas like nitrogen may be definitely classified as a mechanical stimulant to the colon, the gasses resulting from food decomposition such as acetic acid gas and hydrogen sulphide usually have a chemical irritating effect which is at least in part responsible for the diarrhea that occurs in these particular cases. This will be discussed in detail under the heading, "Chemical Irritants of Intraluminal Origin Produced in the Alimentary Tract from Decomposition of Food."

Gas may also be generated in the lumen of the bowel from diseased bowel wall. Here again other factors, the chemically irritating products of the dis-

ease process and also the inherent lesion of the bowel wall itself, play a part in the diarrhea which results.

Gasses may be excreted from the blood into the lumen of the bowel and cause diarrhea. The mechanical distension is one factor and the chemical effect of the gasses is another. Such conditions may occur in the presence of advanced pulmonary disease with vicarious elimination of gasses via the colon; or after inhaling poisonous gasses, for example, in the deadhouse.

Summarizing the outstanding causes of diarrhea from mechanical distension of the colon, we find bulky inert foods, enemas, large pedunculated intraluminal colonic tumors, intussusception, liquids from the ingestion of Epsom or other salts, and liquids excreted vicariously in conditions associated with edema. It is noteworthy that the cases of diarrhea from mechanical distension of the bowel alone are few in number.

CHEMICAL IRRITANTS

This is the largest group, and embraces the commonest causes of diarrhea. Chemical irritants may reach the colonic wall from within the lumen of the colon, or from the blood stream.

Intraluminal irritants may have been ingested as such, or may have been produced in the alimentary tract either from food decomposition or from the digestive glands.

First let us consider chemical irritants of intraluminal origin ingested as such. These substances may have been taken in the form of drugs whose action is on the bowel throughout its entire length such as mercury, or only locally on the colon after the drug has passed through the small intestine. Many cathartics are in this group such as aloin, rheum, oleum ricini, senna and sodium phosphate. Phenolphthalein presumably acts on the lower part of the large intestine.

The irritants may have been ingested as foods which were inherently irritating or became so through decomposition. Foods which are inherently irritating to the colon are fruits and in particular apples, peaches and plums: complex carbohydrates such as honey, maple syrup or preserves; and certain vegetables,

notably rhubarb, cabbage, cucumbers and turnips. Many foods yield irritating substances through decomposition. Some of the toxic material is known as ptomaines.

Second, there are chemical irritants of intraluminal origin produced in the alimentary tract from food decomposition. This decomposition occurs because of (a) faulty digestive juices, (b) hypermotility of the upper alimentary tract, (c) poor absorption of food, and (d) retention of food in the colon.

Any of the digestive juices may be lacking. If there is a large deficit, foods which reach the colon undigested may be sufficiently irritating in themselves to lead to diarrhea.

Diarrhea occurs with achlorhydria. That the achlorhydria alone may be responsible for the diarrhea is doubtful, for many individuals have achlorhydria and no diarrhea. It seems more probable that when diarrhea occurs in the presence of achlorhydria, it is the result of some bodily condition which has caused the achlorhydria, or the result of colonic infestation with parasites which might not have occurred had normal gastric juices been present.

Lack of pancreatic juices undoubtedly leads to lenteric diarrhea. This may be produced experimentally, but clinically so many other things are usually present to complicate the picture that it is exceedingly difficult to prove a given case of diarrhea due directly to the absence of pancreatic juices.

The absence of bile in the intestinal contents is not directly responsible for any diarrhea which may exist.

Hypermotility of the upper alimentary tract results in food reaching the colon before digestion and absorption are completed in the small intestine. Such fecal material may not only be inherently irritating in this condition, but it is also broken down by colonic bacteria and the products of decomposition act as local irritants. The upper alimentary tract may become hypermotile either because of direct stimulation of any part of its wall, or reflexly from conditions present in other parts of the body. Direct stimulation may be from ingested irritants,

from focal ulceration of the mouth, esophagus, stomach or duodenum, or from neoplasm. Conditions which reflexly lead to hypermotility of the entire alimentary tract will be discussed under "Extrinsic Colonic Stimulation."

Poor absorption of food in the upper alimentary tract means that unabsorbed material will reach the large bowel where colonic bacteria will act upon it and the products of decomposition, chemical irritants, may produce diarrhea. There are a number of factors that may be responsible for poor absorption of food in the small intestine. In the first place, the food itself may have properties so that it is with difficulty broken down and absorbed. Such foods are beans, cabbage and bran.

In order that digested foods in the small intestine be absorbed through the lining of the bowel into the blood and lymph stream, the bowel wall itself must be intact. Not only does the health of the bowel wall depend upon absence of local infection of the wall, but also upon an adequate circulation. Thus foods may be poorly absorbed because of an unhealthy condition of the small intestine brought about by diseased bowel wall, circulatory impoverishment in connection with hypertension or passive congestion on a basis of cardiac or pulmonary disease, or lesions associated with the liver which cause portal stasis.

Among diseases of the wall of the small bowel proper may be mentioned typhoid fever, tuberculosis, ulceration, purpura, leukemia, and amyloid disease.

Of the cardiac conditions responsible for poor absorption of food, many could be named including those with valvular incompetence, conduction irregularities, and retrogressive myocardial changes.

On a pulmonary basis, conditions of note responsible for passive congestion of the viscera are extensive fibrosis, solidification of the lobes in pneumonia, and lung compression from intrathoracic air, fluid or tumor.

Portal stasis occurs in advanced cirrhosis, syphilis, tuberculosis and carcinomatosis of the liver and in fatty or amyloid degeneration. Tumors that en-

croach upon the portal vein may cause stasis.

Food may be poorly absorbed in the lower alimentary tract and decompose to become an irritant because of existing conditions comparable to those outlined in connection with the upper alimentary tract.

Food may be retained unduly long in the colon, with decomposition and the liberation of chemical irritants. This happens when an individual puts off going to stool, or allows himself to become constipated for other reasons. After the first hard fecal mass is expelled, there may be watery material, mucus and tenesmus. Food is retained on account of spasm of the sphincter ani in connection with autonomic nervous imbalance or organic lesions such as anal fissure, fistula, ulcer, tumor or thrombosed hemorrhoidal veins.

Food is also retained with bowel obstruction of the dynamic type: fecal impaction, binding fibrous bands, strictures from syphilis, tuberculosis or carcinoma, from the pressure of a tumor against the bowel—a uterine enlargement, big kidney, inflammatory mass or retroperitoneal sarcoma or hematoma, and from intraluminal polyp.

Bile is a chemical irritant to the large bowel but seldom reaches the colon in an irritating state unless the small intestine is hypermotile.

The second large division under chemical irritants as a cause of intrinsic colonic stimulation is the blood-born toxins. These may have gained access to the circulation through the lungs, skin or alimentary tract. Mercury, arsenic, alcohol and lead are examples, and in botulism toxic material gets into the circulation from the small intestine.

Then, also, toxic material may be generated in the body. With certain deficiency diseases an extensive nonspecific colonic ulceration may occur. Diarrhea is occasionally the most pronounced symptom. Diarrhea may develop in connection with advanced diabetes mellitus, with nephritis, and in pernicious anemia. The toxins are theoretically blood-born, and in these diseases the outstanding symptom, instead of cord changes, edema

or pallor, may be diarrhea.

Diarrhea occurs with extensive burns—perhaps due to nervous reflex, perhaps to toxins reaching the colon via the blood stream.

Summing up the chief causes of diarrhea from chemical irritants, we find cathartics and foods with cathartic properties, decomposed foods; conditions associated with achlorrhya gastrica; conditions causing hypermotility of the upper alimentary tract, particularly nervous influences; conditions associated with portal stasis such as cardiac decompensation, arteriosclerosis, cirrhosis of the liver, portal thrombosis, dynamic bowel obstruction, the deficiency diseases, diabetes, nephritis, pernicious anemia, and chemical poisons such as mercury and arsenic.

INFECTIONS

These make up an important group causing diarrhea and are more easily understood than most of the others. In many instances the infectious organism may be isolated from the stool and identified, but there are undoubtedly specific infections of the bowel which cause diarrhea, the causative organisms of which have not as yet been positively identified. This latter group must account for some of the cases of disseminated ulcerative colitis that have been termed "non-specific ulcerative colitis."

Diarrhea may be caused by cocci, bacilli, spirilla, protozoa or worms. While there has appeared but little in the literature in regard to streptococci as the cause of colitis, numerous investigators concur in the opinion that this does occur¹: and in several cases of so-called "intestinal influenza," both during life and at post-mortem examination, large numbers of streptococci not normally present in the colon have been demonstrated in the stools.²

Of the bacilli that cause diarrhea there may be mentioned typhoid and paratyphoid (although constipation may occur just as frequently as diarrhea in these conditions,³ tuberculosis, *B. fecalis alkaligenes* and *proteus vulgaris*.

The outstanding spirillum responsible for diarrhea is the comma organism of cholera.

Protozoa may cause diarrhea. That *amoeba histolytica* and other forms of amoeba may lead to frequent passages is generally accepted, but there is dispute as to whether or not *trichomonas*, *chilomastix* and similar organisms may cause diarrhea. The opinion of the author is that these organisms can and do cause diarrhea under certain conditions. Giardiasis may cause diarrhea.

Among the worms, strongyloides intestinalis⁴ may be mentioned in particular as a cause of diarrhea. Tapeworms seldom cause trouble, and round worms ordinarily do not alter defecation unless they cause mechanical obstruction. Pinworms may produce mild intermittent diarrhea.

Summarizing, of the organisms responsible for diarrhea, particular note is taken of amoeba, streptococci, dysentery bacillus, cholera, proteus and strongyloides.

Tumors, through their effect on the bowel wall proper, may cause diarrhea, but in most instances factors other than the mere presence of the mass must be taken into consideration. Such factors are toxic substances produced through the presence of the tumor, damage to the wall of the colon so that there is interference with food absorption, mechanical obstruction to the bowel, and reflex nervous influences from a generally disturbed state of health. Tumors of the colon may lead to diarrhea alternating with constipation, or may produce constipation alone. The tumors may be neoplasm, either benign or malignant, or they may be granulomas.

EXTRINSIC COLONIC STIMULATION

Impulses that lead to diarrhea may arise from stimuli originating in parts of the body other than the colon. For clinical purposes, these may be considered in two main groups: (1) Reflexes from other parts of the alimentary tract and (2) reflexes from parts *other than* the alimentary tract.

From Other Parts of the Alimentary Tract and its Branches. Proceeding from the top of the head downward, the parts of the digestive tube under consideration are the sinuses, middle ear, nasal passages, mouth and its organs, throat,

bronchi and lungs, esophagus, stomach, liver and other accessory digestive glands, diverticuli, appendix and other branches of the intestine. Theoretically, disease of any of these parts could reflexly lead to diarrhea upon certain occasions.

In otitis media, diarrhea may be the most conspicuous symptom, even misleading the pediatrician toward a diagnosis of gastro-enteritis. Of course the general toxic condition plays some part as well as the reflex element, but for practical classification, the diarrhea of otitis media seems to fit in well at this point. The essential thing of course is to recognize the possibility of otitis as a cause of diarrhea, regardless of whether it be reflex or toxic in nature.

In similar manner, pharyngitis and more specific upper respiratory disorders such as measles, diphtheria, or scarlet fever may lead to diarrhea, particularly in children.

There are cases of extensive tuberculous involvement of the lungs with concomitant diarrhea. Other anatomic changes present such as amyloidosis create confusion in attempting to show that the diarrhea is essentially reflex in nature; and for that matter, in most instances several causes may be active.

Diarrhea in connection with pancreatic stones has been described as a particular symptom of that condition. The reflex element must play an important role in this connection.

Bloody diarrhea is a common symptom of intussusception and mesenteric embolism or thrombosis. It may occur also with portal thrombosis.

Parts Other Than the Alimentary Tract. Diarrhea has been produced reflexly through excessive stimulation of the organs of special sense, through autonomic system disorders, cerebral malfunction, spinal disease, and from impulses arising in the pelvic organs or other parts of the body.

(a) Among reflexes arising through the organs of special sense, mention may be made of internal ear stimulation as with sea-sickness; horrifying visual phenomena; disgusting odors; and sickening tastes. Any such excessive stimulation

may reflexly lead to diarrhea. Also, excessive stimulation of the skin—a burn, bruising, tickle, may lead to diarrhea.

(b) Most of the above-mentioned reflexes pass by way of the autonomic nervous system. For that matter, the nervous stimuli leading to diarrhea from any cause involve the sympathetic and parasympathetic nerves; but for clinical purposes, a special group is set aside. This group embraces autonomic reflex diarrhea from thermic, atmospheric, allergic, endocrine or chemical influences.

Summer diarrhea is at least partly on a basis of autonomic reactivity to thermic and humidity changes. There are individuals who have severe diarrhea whenever there is a sudden drop in temperature, and *visa versa*.

Diarrhea has been recognized as an allergic manifestation on many occasions. As an example may be mentioned the case of a girl who had diarrhea every time she ate peanuts. They were "poison" to her.

Loose frequent evacuation is not infrequently a symptom in thyroid dysfunction, pregnancy, puberty, the catamenia the menopause and other states in which the endocrine system is unduly active.

Of the chemicals which may give rise to diarrhea, through their action upon the autonomic nervous system, specific mention is made of tobacco, muscarine, adrenalin and pituitrin.

(c) Cerebral disorders which reflexly cause diarrhea may be either so-called "functional," or "anatomical." In various emotional states—fright, sorrow, anger—it may occur. It may be a symptom in mania, dementia, hysteria, or migraine.

The anatomic cerebral lesions that occasionally are accompanied by diarrhea are inflammation, tumor, congenital defect, or pressure.

(d) Similar lesions of the spinal cord or ganglia are sometimes at fault. Diarrhea has accompanied herpes and has been seen with peripheral neuritis.⁵

(e) Stimuli may arise in many parts of the body and cause diarrhea. In the pelvis in particular, such conditions as uterine, ovarian or tubal disorders may reflexly produce this symptom.

Summarizing the chief causes of diarrhea on a basis of extrinsic colonic stimulation or reflex, there are emotional states, encephalitis, meningitis, atmospheric changes, allergic phenomena, endocrine disorders, otitis media and upper respiratory tract disorders, and obstruction of the small intestine.

PRACTICAL APPLICATION

Thus the causes of diarrhea constitute a broad field, embracing definitely known etiologic factors and theoretical possibilities. There are single causes and also diarrheic states due to a number of interacting causes.

However, armed with a knowledge of both confirmed and potential causes, the physician is better equipped to diagnose his case in detail, and of course upon detailed diagnosis competent treatment is based.

There are cases of diarrhea which tax the ingenuity of the medical attendant to the utmost. The routine in such instances is a detailed history and complete physical examination, any laboratory work tending to throw light on the patient's general condition, and then retrospective study of the fine points in the patient's history. Meanwhile, the routine treatment for diarrhea in general may be started; but the physician should never lose sight of the fact that this treatment is empirical and never curative except by accident. Chronic diarrhea is a serious symptom and demands much study. To the well-trained physician, there is no end of research possible in each case, and the point is never reached at which he may truthfully say, "I have exhausted all means of study and am at the end of my rope." Accurate diagnoses and cures have been established even after years of persistent observation and experimentation.

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TUBERCULOSIS ABSTRACTS

Proposals for the treatment of tuberculosis by some form of nutritional therapy reappear periodically. Recently, the regimen devised by Gerson, based on the studies from Sauerbruch's clinic in Munich, has attracted the attention of physicians and laymen, largely through incomplete press reports of a "salt-free diet." Edgar Mayer of Saranac Lake was privileged to visit Sauerbruch and Gerson's clinic to observe their dietary methods. Upon returning to this country, Dr. Mayer and his associates, with the assistance of Frau Jungklaus who received her dietetic training in the German clinic, applied the method to a group of 30 patients. The results are reported in the Journal of the American Medical Association, December 14, 1929, from which the following abstracts are derived.

BASIC (VITAMIN) FEEDING IN TUBERCULOSIS

The diet in advanced tuberculosis should be of a caloric value sufficient to cover the metabolism (increased by the toxemia especially) as well as the atrophy induced by the disease. But the pulmonary mechanism should not be burdened by an excessive caloric intake. Fifty calories per kilogram is the optimum. Theoretically, the protein intake should be increased, but this accelerates metabolism and hence prevents pulmonary rest. On a 3,500 calory diet, a daily intake of 100 grams of protein will maintain a tuberculous patient in positive nitrogenous equilibrium.

GERSON DIET IS BASE-FORMING

Fulfilling the caloric requirements is not enough for the wasting in tuberculosis involves a corresponding demineralization. The Gerson diet makes good this deficiency by including base-forming solids. The German physicians seem to be confused about the acid-forming and base-forming values of the dietary, but Mayer states that "an analysis of the diet reveals definitely its base-forming nature." Sodium chloride is excluded because it favors tissue hydration, which is already excessive in tuberculous processes. The most significant feature of the dietary is that it is rich in vitamins A to G, and this constitutes a spe-

cific advance in this particular form of dietary treatment of tuberculosis. A sample diet for one day is shown in the table.

Mayer observed in the German clinics "definite healing in advanced cases of lupus vulgaris of the face and mucous membranes that had previously been resistant to all other accepted forms of treatment. These results seemed far more striking to us than those claimed for the other forms of tuberculosis, which included tuberculosis of the bones and joints, lymph nodes, lungs, peritoneum and genito-urinary tract, both with and without sinuses." Lupus is a prevalent complication in European countries, while in the United States it is relatively rare.

DIET TESTED IN UNITED STATES

Upon returning to this country, Mayer selected 30 patients who had failed to respond to accepted therapeutical measures for two or three years. Of these, 10 were excluded before the end of the six months' period for various reasons. The 20 patients who completed the experiment showed a substantial gain in weight which it had been impossible to attain by previous procedures. Many of the alimentary disturbances, which had persisted on other diets, cleared rapidly with this regimen. The diet was well tolerated except in two instances. It was effective in diminishing fatigue and induced a sense of well-being. The slight elevation of temperature disappeared in a few cases.

Physical and roentgenological examinations of the chest showed in about one-third of the cases definite clearing, with an occasional contraction of a cavity. The other patients did not show any marked changes. The quantity of sputum diminished considerably in about half the cases, but in none did it become negative for tubercle bacilli. A few of the patients showed marked diminution of cough. Hemorrhages occurred in some during the experiment as well as before. Chest pains disappeared in a few who constantly complained of this symptom before. Two cases of intestinal tuberculosis which had resisted other therapeu-



Rats fed on acid-forming (left) and base-forming (right) diets.

tic procedures cleared up clinically, and the roentgenological filling defects of the colon disappeared; one remained unchanged.

EXPERIMENTS ON RATS

The author cites also chemical and nu-

Sample Diet for Tuberculosis Patient for One Day

3,500 calories; 70 Kg.; 1 Gm. per Kg. of body weight; basic, 40 cc.

7 a. m.	Oatmeal	4 T	1 2/3 oz.	1 p. m.	Veg. soup	1 C	8 oz.	6 p. m.	Rice	2 T	1 oz.
	Sugar	1 T	1/2 "		Potato	1	5 "		Lettuce	Serv	1 2/3 "
	Cream	2 T	1 "		Peas	Serv	3 1/2 "		Cheese	1" cube	1/2 "
8 a. m.	Br. tomatoes	1	3 1/3 "		Carrots	Serv	3 1/2 "		Bread	1 sl	1 "
	Stale bread	1 sl	1 "		Lettuce	Serv	1 2/3 "		Butter	1 pat	1 1/3 "
	Sweet butter	2 pats	2/3 "		Mayonnaise	1 T	1/2 "		Milk	1 C	8 "
	Cream cheese	1" cube	1/2 "		Bread	1 sl	1 "				
	Honey	1 T	1/2 "		Butter	2 pats	2/3 "				
	Milk	1 C	8 "		Milk	1 C	8 "				
11 a. m.	Lemon juice	1/2 C	4 "	4 p. m.	Cocoa	1 C	8 "	8 p. m.	Oatmeal	4 T	1 2/3 "
	Sugar	2 T	1 "		Bread	1 sl	1 "		Suga:	1 T	1/2 "
	Egg yolk	1	2/3 "		Butter	1 pat	1/3 "		Cream	2 T	1 1/3 "
	Butter	1 pat	1/3 "						Almonds		1/3 "
	Crackers	2	1/2 "								

In addition, the patient receives one tablespoon cod liver oil three times daily, much fruit between meals and about five grams of meat weekly.

tritional studies in two groups of albino rats to determine the effect of acid- and base-forming diets on the blood, bones and metabolism. Compared with the rats on the acid-forming diet, those on base-forming diets gained markedly in weight, their bones were larger, firmer and non-rachitic, their muscular tone was better, they were more vigorous, their appetite was keener, they did not succumb to infection as easily; in short, the general metabolism and well-being was superior.

Dr. Mayer realizes that this preliminary study of human patients permits of no dogmatic statement because the group was distinct from those of the German clinics, where more favorable results were observed, and because of the difficulty of clinic control; the only means being the selection of patients who failed to respond to accepted therapeutic measures for two or three years. The favorable results in about one-third of the patients studied for a period of six months of careful supervision may perhaps be attributed to the effect of the dietary. But critical clinicians may justly maintain that contributory factors other than diet were operative in the end-result. The psychic element, the enforced rest, the occasional tendency of the disease to subside spontaneously, the whole-some food, its scrupulous preparation and careful cooking, and the individual service are factors that must be considered in a final analysis.

IMPORTANCE OF VITAMINS

Mayer believes that the inorganic constituents, whether acid-forming or base-forming, are not as important as the vitamin content of the dietary. Such foods as milk, vegetables, and fruits are rich in vitamins and are base-forming. These two factors regulate cellular metabolism, and the utilization of minerals depends on the simultaneous presence of vitamins in the alimentary tract.

Extravagant and unwarranted claims have been made for the Gerson diet but it is certainly not a cure for tuberculosis. In isolated cases, it may be of value but only as an aid to the accepted routine treatment whose mainstay is still rest.

MEDICAL SCHOOL NOTES

Dr. J. E. Ackert, chairman of the graduate council at K. S. A. C., addressed the medical students of the University of Kansas, Wednesday, February 26, on "Important Human Parasites."

"With much new equipment and a staff of eminent specialists, Kansas has reasons to be proud of her University Medical School," Dr. Ackert said, when speaking of the new building in which the Medical School is housed.

Dr. Earl C. Padgett and Dr. C. B. Francisco recently spoke to the County Medical Society of Chanute, Kansas. Their subjects were "Sacro-iliac Sprain" and "Some Phases of Plastic Surgery."

The first course of lectures under the Porter Lectureship in Medicine was given by Dr. Lewellys F. Barker, Professor Emeritus of Medicine of the Johns Hopkins Medical School on April 1 and 2. In 1918, Dr. J. L. Porter of Paola, Kansas, bequeathed to the Medical School a sum of money for the stimulation of scholarship and research in the Medical School. A portion of the income from this fund has been used to provide a scholarship for a worthy student. The remainder of the income is to be used to defray the expenses of an annual lecturer in medicine.

Dr. James H. Danglade, '26, an instructor in the department of medicine of the Johns Hopkins Medical School, visited here recently.

Dean H. R. Wahl and Dr. Ralph H. Major attended the annual meeting of the Council on Education of the American Medical Association held in Chicago recently.

Intensive graduate courses in obstetrics, gynecology, pediatrics and ophthalmology have been given for practitioners over the state. Outstanding specialists from various medical schools over the country have served on the faculties for the courses.

THE JOURNAL

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THE MEETING

The most successful annual meeting in the history of the Society has just closed. According to the registration books there were 512 in attendance. The convention hall was crowded to its capacity on Wednesday which was "Guest Day." There were no vacancies on the program, of any day, every man was on hand with his paper or lecture at the proper time. A full report will be printed in the June number.

THE BRINKLEY MATTER

Now that the complaint against Brinkley has been filed and he has been regularly summoned to appear before the State Board of Registration and Examination to show cause why his license to practice should not be revoked the editor is at liberty to spill all the beans he wishes. However, much of what could be said is now past history and the newspapers have already made it public.

It is the most natural thing in the world that the members of the Society should become impatient with what seemed to them unnecessary indolence in the disposition of such an intolerable situation.

The wisest council was against pub-

licity until such time as the preparations for procedure were completed. It seemed to many that there was sufficient evidence of fraud and of gross immorality to revoke the license of any practitioner, of any other practitioner at least. But this man not only had friends in high places but he had resources for publicity by which he was able to form public opinion to his needs. A man of less notoriety, less keenly alive to the precarious position he held, and less strongly defended by the religious, political and commercial influences his foresight had created, would have been hailed before the board and deprived of his license in short order. But in this case it was very essential to be sure that the action of the board should stand the test of the highest courts for it was conceded that the action of the board would be so contested. Since in such a case the board must be, or is supposed to be, defended by the Attorney General it was regarded as of considerable importance that before any action was begun he should be satisfied of the extent, nature and sufficiency of the evidence. Perhaps it was one's impatience that led one to believe the Attorney General was too hard to satisfy.

Comparing the evidence already accumulated with the evidence upon which other licenses have been revoked there is hardly room for the slightest doubt how the board will act in the matter. After that we will perhaps have an opportunity to see what attitude the Attorney General will take. A great deal of credit should be given the Kansas City Star for its exposure of the practices at the Brinkley hospital and it is freely conceded that the Star was largely responsible for the final yielding of the Attorney General to the demands for immediate action.

COST OF ILLNESS

During the past year there has been an unusual amount of discussion in both

lay and medical publications on the high cost of medical care in which both the medical profession and the hospitals have been subjected to considerable criticism. There has often been a considerable element of hysteria and misinformation on both sides of the argument. Generalizations are frequently made on the basis of isolated and unusual instances that on careful analysis are manifestly unfair and exceptional. The patient will complain of the exorbitant charges that a certain doctor has made "without doing anything" and the physician will tell of a shabbily dressed man coming to the dispensary in a Packard sedan for free treatment. The patient states that the hospital charges are robbery and the nurses have no interest in their welfare and the hospitals feel that the patient should have selected cheaper accommodations and excuses its high charges on the basis that the doctor on the case has ordered so many special tests and expensive therapy. The patient feels that his doctor is no longer particularly interested in his welfare and the doctor holds that since the patient has spent too much money on patent medicines and irregular practitioners that, after his years of intense study and starvation, he is entitled to a reasonable fee for his time and advice.

The medical profession is not so well thought of by the laity now as it was a generation ago when the average physician was a "family doctor." It is quite probable that there is some exaggeration of this supposed lack of confidence yet it must be admitted that there is some truth in it. This is the natural result of the increasing specialization of medical practice. There is no longer such an intimate contact between the patient and the doctor in many instances and both parties are apt to acquire a warped impression of each other.

The average man who goes to a free clinic goes by necessity and not by choice. This is evident to anyone who has been in a large free clinic and who has taken time to inquire into the circumstances of these clinic patients. Less than 5 per cent take advantage of such free treatment. Many tragic situations are revealed in such inquiries. The average man resents the imputation of accepting charity and wants to pay if he can. Often he is misinformed or deluded as to the nature of a free clinic and doesn't know that he is making unfair demands on a doctor's time.

Hospitals are often accused not only of being expensive but being cold blooded and enmeshed in red tape. The average patient entering a hospital has the notion that he is the only one in the institution and that everything must be done to please him. He doesn't realize that what he wants may be contrary to his doctor's orders or may be detrimental to other patients who may be near him. The "so-called red tape" is provided to secure obedience to the physician's orders and to provide the welfare of the great majority of patients in the institution. This may interfere with the desires of an individual patient and, often to save the doctor, the hospital takes the blame.

The fact is that the cost of medical care is not high when considered in the light of its importance, the trend of modern times had the price the public pays for its luxuries. It has been estimated that the total cost of medical care in the United States during the past year was a little less than three billion out of a total income of 90 billion dollars. Health is of the greatest importance to the public yet the cost of its maintenance is much less than what it expends for candy, tobacco, the motor car or the movie. There is no public clamor against the high cost of candy or tobacco!

Co-operation between the doctor and the patient can do much to lower the cost of illness. Physicians often order an unnecessary number of special tests and examinations that could be eliminated if they would rely more on their five senses in making the diagnosis. Many patients could reduce their expenses if they would not go to a specialist for minor ailments but rely more on the general practitioner, if they would stop wasting money on patent medicines, quacks and cultists and if, when they enter a hospital, be willing to accept the less expensive beds. Many patients fail to recognize that the medical treatment in the wards is fully as good and much less expensive than that in private rooms.

Much of the recent discussion of health costs is permeated with misinformation. The medical profession should see to it in the future that the public is not only kept informed of the advances of medical science but is persuaded to accept the application of these advances. Physicians generally give free information to each other of their results and discoveries but make little active effort to make the public understand their value. The medical profession has been remiss in acquainting the public with what it can do with disease. Not only should the profession educate the public but should set as its goal in the next decade, the availability of everything medical science has to offer to every person regardless of his social or economic status and education. At present it is generally recognized that this is accessible to the rich and the poor but the great self respecting middle class deserves such education and such service without being forced to the alternative of accepting charity or receiving inadequate service.

Much of the dread of illness arises from the fact that it catches the average

man unprepared and the economic crisis resulting therefrom is apt to give him a warped perspective of the medical profession and of hospitals. Hence, second to the education of the public with what medical science can do for it, the medical profession should encourage some form of health insurance so that when the inevitable illness develops, it does not become such a financial burden.

In the third place the profession should urge the public to consult their family physician more frequently and make fewer calls on the more expensive specialist, inasmuch as a good general practitioner is fully competent to take care of 85-90 per cent of all types of illnesses requiring medical advice. If this is done, there is no danger of the "family doctor" disappearing. The only obstacle in the desired maintenance and rehabilitation of the family physician is the feeling that the family doctor may sell his patient to the highest bidder rather than to send him to the most competent man that is available. This is the danger of the "fee splitting evil" and the reason why the more thoughtful members of the profession are making such efforts to clean this evil out of the profession.

H. R. WAHL.

R

SOCIETIES

RUSH-NESS COUNTY SOCIETY

The Rush-Ness County Society met in LaCrosse, Kansas, April 7th with Dr. F. D. Smith. There were nine members present. Dr. W. Singleton of McCracken presided. Reports of secretary and treasurer were read and approved.

On a motion regularly seconded and carried the Rush-Ness County Medical Society went on record as offering a protest against the activities of one J. R. Brinkley of Milford, Kansas, and his radio broadcasting over station KFKB in that his conduct was unethical and unprofessional and that his statements

were false, vulgar and misleading to the public.

Dr. H. C. Embry of Great Bend, Kansas, gave a very interesting, as well as instructive, paper on Intestinal Stasis and its relation to arthritis. The paper reported the results of some of our leading authorities as well as some of Dr. Embry's own cases; giving us a newer etiological factor to consider in this type of cases.

Dr. L. A. Latimer of Alexander was elected state delegate and Dr. W. S. Grisell as alternate, to the state meeting in Topeka, Kansas, in May.

Dr. H. R. Bryan of Hayes, Kansas, was a guest of our Society and he will furnish us with a paper at our next regular meeting with Dr. Grisell at Ransom, Kansas, in June.

F. D. SMITH, M.D., Sec'y.

ROUBBON COUNTY MEDICAL SOCIETY

Bourbon County Medical Society met in the Library Building in Ft. Scott, Kansas, at 8:00 p. m. April 21, 1930, with Dr. W. S. Gooch, the president, in charge. There were fourteen doctors present.

A motion was made and seconded, that a letter be sent to the Hon. Gov. Reed, favoring the re-appointment of Dr. A. S. Ross and Dr. A. D. Gray, as members of the State Board of Medical Examiners.

A committee, representing the society, was appointed to draw up resolutions, recommending the State Board of Medical Examiners, to revoke Dr. J. R. Brinkley's medical license to practice medicine because of unethical practices.

Dr. Ray M. Balyeat, of Oklahoma City was the guest speaker and gave a very excellent paper on allergy, including asthma, hay fever, urticaria, eczema, and migraine. He illustrated with lantern slides. His lecture was greatly appreciated. Meeting adjourned at a late hour.

The Bourbon County Medical Society wishes to submit the following resolutions to the Honorable Board of Medical Registration:

Whereas, The Bourbon County Medical Society wishes to express their disapproval of the professional conduct of

one John R. Brinkley of Milford, Kansas, and

Whereas, Said John R. Brinkley was at one time made a member of our county society we wish to express our regrets that he was ever recognized by us as a fellow, and

Whereas, The Bourbon County Medical Society wishes to recommend to our Honorable Board of Medical Registration that the license of said John R. Brinkley be revoked, and be it further

Resolved, That a copy of these resolutions be sent to the Journal of the Kansas State Medical Society.

On motion of Dr. J. D. Hunter, seconded by Dr. R. O. Crume after discussion, was unanimously adopted.

Committee: Ralph O. Crume, M.D.; John D. Hunter, M.D.; W. T. Wilkening, M.D.

R. Y. STROHM, M.D., Sec'y.

DICKINSON COUNTY

The Dickinson County Medical Society met in Herington, Kansas, as guests of the Herington doctors. Twenty-one doctors were present including a few from Morris and Marion counties. Supper was served at the Hotel Daily. A motion picture was shown on "The Relation of Absorbable Suture to Wound Healing" furnished by Davis and Geck, Inc. Dr. Victor F. Chesky of Halstead read a paper on "Gall Bladder Disease." Both paper and reel were much enjoyed.

A resolution was passed expressing commendation to the Kansas City Star for its praiseworthy efforts in exposing the lies, misrepresentations and unethical methods used by Dr. J. R. Brinkley of Milford, Kansas, in roping in innocent victims for the purpose of defrauding them of their money. Requests were made to the Attorney General of Kansas and the Federal Radio Commission, that on the basis of the evidence published in the Kansas City Star, steps be taken to have Brinkley's license to practice revoked and that he be prohibited from the further use of his broadcasting station in the promotion of his medical bunk.

The next meeting will be at Hope, Kansas.

DANIEL PETERSON, M.D., Sec'y.

CLAY COUNTY MEDICAL SOCIETY

The April meeting of the Clay County Medical Society was held in Clifton, Kansas, on the evening of the 16th. The members of the society were guests to a dinner at the McCoy hotel which was provided by Drs. Scott, Van Scoyoc and Potter of Clifton.

Following the dinner the society met in Dr. Van Scoyoc's office for the business and scientific sessions.

A number of communications were read and the regular business of the society taken care of.

Applications for membership into the society from Dr. T. C. Kimble, Miltonvale, Dr. L. J. L'Ecuyer, Greenleaf, Dr. Z. H. Snyder, Greenleaf, and Dr. L. J. Weiss, Clay Center, were voted upon and all were elected to membership in the society.

The proposition of a full time health officer for Clay County was brought up and it was moved, seconded and carried that the Society go on record as favoring a full time man and further that a committee of three be appointed to interest the civic clubs of Clay Center and other organizations of the county in the movement. Dr. H. E. Potter, acting president, appointed on this committee Drs. R. W. Diver, E. N. Morgan and E. N. Martin.

Following the business session, Dr. S. T. Millard gave a talk on "Pre-cancerous Skin Lesions" which was very instructive and enjoyed by all present. He also presented some dermatological cases and discussed them.

Due to the inclement weather, the attendance was not up to normal as only thirteen members were present.

The society will be guests of Drs. Carr and Smiley at Junction City for the May meeting.

F. R. CROSON, Sec'y.

JEWELL COUNTY SOCIETY

Jewell County Medical Society members and their wives or husbands were guests of Dr. and Mrs. Hawley at the

M. E. Church of Burr Oak on April 22. Luncheon was served in the dining room of the church during which time music was furnished by the Burr Oak orchestra.

At one o'clock Dr. C. S. Kenney of Norton gave an address which was open to the public. The Burr Oak schools attended in a body. Immediately after his address Dr. Kenney held a T. B. clinic at Dr. Hawley's office. A brief business meeting was held by the members, after which Dr. Yankey of Mankato read a paper on "Undulant Fever." A discussion followed.

The members showed their appreciation of Dr. and Mrs. Hawley's hospitality by giving them a vote of thanks for the very pleasant time spent together.

C. W. INGE, M.D., Secretary.

FRANKLIN COUNTY SOCIETY

The Franklin County Medical Society met in regular session at Garnett, Kansas. This was a joint meeting with Allen County and Anderson County Medical Societies. Dinner was served by the ladies of the United Presbyterian Church. There were thirty-four participants.

Dr. Wm. T. Tilley who lately located with us was taken into membership. A resolution to commend the work of A. B. McDonald and the Kansas City Star regarding John R. Brinkley was made a matter of consideration and received the unanimous vote of the three joint societies. Accordingly the following letter was drafted and ordered sent to Mr. McDonald:

"The Franklin, Allen and Anderson County Medical Societies in joint session, April 30, by a unanimous vote commend your action in the John R. Brinkley broadcasting quack affair.

"These three societies congratulate you on the results so far obtained and have confidence that you will continue to use your almost unlimited opportunity to suppress quackeries, charlatanism and cupidities that prey on the credulity of invalidism."

Talent for the program was all present. Dr. Terrill gave a very practical paper—a resume of his last half year's experience with scarlet fever. There was an extensive and very practical discussion

of the disease from its various angles. Dr. Terrill himself led all those that were already committed to the serological treatment.

The second half of the program took for its theme a paper by Dr. P. S. Mitchell of the Allen County Society. The subject of the paper was "What is Mine," an original thesis that required much study, learning and thinking by the author. He led us far afield. Away from the beaten paths of medicine and surgery. Through unfrequented lanes, beside the quieter shrines of metaphysics and psychology toward the realms of the spiritual. Withal, pointing out along the way many things, by us hitherto unseen or unnoticed. Iconoclastic. The good doctor tried to eliminate "mind" as an entity; indicating as best this writer could understand that what we so easily called mind was not a separate entity but, rather, a functioning normal or abnormal, of brain, nervous system, musculature and fluids of the body.

Discussion of the paper was opened by Dr. T. B. Homan, Prof. of Psychology, Ottawa University. His discussion and the paper led us all out into speculative questionings and opinionations commensurate with our several experiences up to our several mile posts along the journey of life. Dr. Mitchell's paper was by common consensus of opinion classed among the best things ever offered to our societies.

A resolution was unanimously passed by the joint societies requesting the writer to submit the paper to the Kansas State Medical Journal for publication.

GEO. W. DAVIS, M. D., Sec'y.

Clinical Conference of the St. Louis Clinics

The St. Louis Clinics will depart from its usual procedure in conducting post-graduate courses in the fields of medicine and surgery. The Clinical Conference which will take place in St. Louis, Missouri, June 9 to 21, inclusive, will consist of a series of lectures, demonstrations, clinics and round-table luncheon discussions on medical and surgical subjects of interest to the general practitioner. No attempt will be made to arrange the material in special courses,

but it has been so selected and arranged that practically all fields of medicine, surgery and allied subjects will be included.

St. Louis is fortunate in the possession of two outstanding medical schools of the country with a wealth of unsurpassed clinical material. The present conference is offered to give the profession an opportunity of coming into close contact with this valuable material and the many excellent local clinicians.

The subjects have been selected with the specific idea of assisting the practitioner who wishes to refresh his mind on many of the common things which are met with in general practice. The luncheon round-table discussions which will be participated in by several clinicians noted in their particular fields should be very interesting and most valuable. In these discussions an attempt will be made to carry out the symposium idea so that the subject will be completely covered.

Clinicians of national and international prominence have accepted the invitation to participate in the conferences. This type of clinical conference has a distinct place in post-graduate medical teaching. We congratulate the St. Louis Clinics upon the recognition of this idea and upon inaugurating the conference which doubtless will be an annual event.

—R—

Doctor, Who Are Your "Commercial" Friends?

Now when the physician is beset on all sides to try products 'just as good as Mead's,' it is well for the physician to consider that in a commercial age when the practitioner must compete with newspaper, magazine, radio, tradesman and patent food manufacturers who practice medicine without a license, here is one manufacturer who unceasingly works for the medical doctor's economic as well as professional interests. Hold fast to that which is good,—The Mead Policy which makes Mead Johnson & Company more than a commercial house—a powerful ally that practices as well as preaches ethics.

BOOKS

The Medical Clinics of North America. (Issued serially, one number every other month) Volume 13, Number 5. (Chicago Number, March 1930.) Octavo of 207 pages with 17 illustrations. Per clinic year, July 1929 to May 1930. Paper, \$12.00; Cloth, \$16.00 Net. Philadelphia and London; W. B. Saunders Company, 1930.

Williamson and Birch present an analysis of the wrong diagnoses in four years of medical service as revealed by autopsy. This is particularly interesting because of 128 cases so studied 119 were diagnosed correctly. Among the instructive papers in this volume are: Disorders of sleep by Pollock; periarteritis by Carr; the vomiting mechanism in the early toxemias of pregnancy; undulant fever by Strause and Howell; appendicitis in children by Gertsley; heart failure by Brams; uremia in children by Calvin; the use of digitalis in the control of auricular fibrillation, by Fenn; the relation of headache to upper abdominal distress. There are other clinics in which every practitioner will be interested.

Surgical Diagnosis. By 42 American authors. Edited by Evarts A. Graham, M.D., Professor of Surgery, Washington University Medical School. Three Octavo volumes, totalling 2,750 pages, containing 1,250 illustrations, and separate index volume. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$35.00 a set. Volume I and II are now ready. Volume III and separate index volume ready March 15, 1930.

There is need for a comprehensive work on surgical diagnosis, even if nothing particularly new is brought out. Simply to make conveniently available all the knowledge on the subject is eminently worth while. With such a large

list of the outstanding surgeons of the country contributing to this work it should meet the demands for the present at least. The editor of the work suggests that patients are frequently operated upon with too little preliminary study—that is before a correct diagnosis has been made. If better facilities for making correct diagnoses will tend to mitigate such an unfortunate condition of affairs this publication will certainly accomplish much. The work is well illustrated.

FOR SALE—Ten thousand dollar practice in good Kansas town of eight hundred population. No better location in state. Prefer young man with some experience. Will sell for price of equipment with small cash payment. This ad appears but once. Address W. L. L., M.D., 616 River-view, Wichita, Kansas.

PRACTICE FOR SALE—In good town of 750 inhabitants with good surrounding territory in central Kansas. Office for rent. Would want to sell part or all of furniture and equipment. Good opportunity for energetic young man. Will send particulars to any one interested. Address A-546, care Journal.

FOR SALE OR TRADE—Will sell for cash or trade with some doctor in Central or Eastern Kansas a good seven or eight thousand dollar practice. If interested write to Box 728, Herndon, Kansas.

WANTED: Will pay reasonable price for good medical location preferably in northeastern Kansas in a modern town. No real estate considered. Address A-545 care Journal.

FOR SALE—Location in Southeastern Kansas, town of 500, electric lights, gas, accredited high school, hard surfaced roads, extra large trade territory. Introduction given for price of residence. Address A-543, care Journal.

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E. L. DUNCAN, FREDONIA
President-Elect, Kansas Medical Society

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President's Address

E. S. EDGERTON, M.D., Wichita

Annual meeting of the Kansas Medical Society, at Topeka,
May 5-7, 1930.

It is my pleasure and privilege, at the outset of our annual session, to express to you my sincere appreciation of the honor you conferred upon me last spring in electing me your presiding officer for the ensuing year. It is a high honor in the medical career of any man, and keen is my pride in this vote of confidence you have given me.

I knew that custom had provided that I come before you at this time with a message, bringing, if I might, wise suggestions for the good of our organization. But all of the main issues of our organization activities have been, at one time or another, called to your attention by my predecessors in addresses of this kind in a manner more forcible than mine.

And, so, I come to you today to talk to you as doctor to doctor, rather than to emphasize any state-wide activity of our organization.

In these times we frequently hear reference made to the economic problems concerned in the issues of health and disease. A very extensive survey is being made on the cost of medical care. Industry has manifested an insistent determination to rid itself, insofar as possible, of waste and inefficiency due to disease and physical impairments, and its demands are in no uncertain terms. Industrial medicine and surgery are here to stay.

There has been for a number of years a rapidly growing movement in disease prevention and life extension on the part of certain large life insurance companies.

Our State Workmen's Compensation laws have placed the care of injured workmen in the hands of doctors chosen by the employers or the insurance carrier, and the choice of his doctor no

longer rests with the injured workman. These are instances of what powerful private interests are doing, and they are doing this from economic necessity and are not primarily concerned with the effects of these movements on the private practice of medicine.

In the matter of preventive medicine our State Board of Health has the power to make certain demands on the physicians of the state. The people of Kansas have a right to demand the greatest possible protection from disease, and if for any reason the medical profession of Kansas does not see fit to co-operate with the Board of Health, the people will step in and give the board complete control.

The establishment of great funds and foundations, as outlets for the charities of philanthropists, has possibilities for doing much harm as well as good. All of these movements carry with them the hidden inference that there are lacking in our present methods of medical practice certain features which others are aiming to supply. Other movements show signs of even wider dissemination, and there is abroad in the land today a feeling of unrest and dissatisfaction, in many quarters pointing toward state medicine or some equivalent.

Now, I do not believe that state medicine will ever come to this United States of ours, but I wonder sometimes if we are not drifting along without enough thought of the future of the practice of medicine. Indeed, today it seems to me there is an alarming dearth of actual medical practice—for preventive medicine aside, the practice of medicine in its final analysis means taking care of sick people. Now it so happens that man today still harbors somewhere about him a fear of disease, and when he is sick he wants something done for him. He first looks to the medical profession, but if he cannot find help there he naturally

turns to the osteopath, or the chiropractor, or some other cult or ism. He just naturally wants something done for him, and, inasmuch as a large proportion of his ills take care of themselves in spite of what is done for him, Mr. Osteopath and Mr. Chiropractor and Mr. Healer gain easy entrance to the field. Our state laws licensing chiropractors and others are a disgrace, but they are now on the statutes and it looks as though they are to remain there. The veterinary board of Kansas is more careful to see that cattle and hogs and sheep and horses are given scientific treatment than is the legislature in insuring a similar safety to the people of Kansas.

The minimum requirements for the practice of veterinary medicine or surgery in Kansas are training and examination in just those basic sciences which the legislature has refused to consider as essential in the care of human beings, namely, chemistry, anatomy, pathology, physiology, pharmacology, obstetrics and sanitation. These far exceed the requirements of our licensed cults today. This rule is absolute and there are no loopholes through which chiropractors, osteopaths, or christian scientists may treat horses, cattle, or sheep. Our legislature has taken far greater pains to safeguard the health and lives of cattle than it has to insure adequate care for its citizens.

But, gentlemen, it is a fact that the medical man today is, in a large number of instances, not responding readily to the call of the sick man, especially to the sick man of the great middle class, or is rendering a very indifferent type of service, through lack of time, of earnestness, of sympathy or patience. Mistakes are being made too often through lack of study and non-examination of patients. Our doctors are not practicing as much medicine as they know how to practice. It seems to me that there are doctors who actually dislike to make a physical examination, and people are having forced on them the thought that for thorough service they must enter a hospital, and hospital costs today are, to my notion, to blame for the widespread hue and cry about the high cost of sick-

ness. But, of course, I do not believe that this type of doctor makes up more than a small minority of our members. It is my thought that the lack of readily available efficient medical service arises from another quarter. There is an actual dearth of doctors who are practicing medicine, and what I mean is practicing medicine. We are over-specialized and over-standardized. Our schools are turning out highly trained graduates, who naturally seek locations in larger centers, and in many instances limit their efforts to certain special types of medical or surgical practice, coming to "know more and more about less and less." But where are the doctors who are to go out into the homes and care for sick people? There isn't a day goes by that I am not called because Doctor Black "can't take care of me unless I go to the hospital," or Dr. White "doesn't make night calls," or Doctor Green "doesn't make calls at all." Is it any wonder that these people get into the hands of chiropractors? We need more doctors actually practicing medicine and greater industry among those we have.

Hospital convenience to the doctor oftentimes adds greatly to the expense to the patient. Conscientious house and office service will satisfactorily diagnose and care for ninety per cent of the cases that come to the doctor today. Too frequent consultations with specialists is a source oftentimes of unnecessary expense. It seems to me that too frequently the presentations in our society meetings carry the impression of an ever increasing number of conditions that must be referred to one specialist or another, with a corresponding narrowing of the field of the general practitioner.

And then, on the other hand, it is not necessary that the nose and throat man forget how to use his stethoscope or his blood pressure outfit in order to be a laryngologist. And, yet, many are the cases referred by these specialists for heart or lung or kidney examination before they operate their throat or sinuses. Now, I am just as anxious to know what kind of a heart muscle my gall bladder case has as I am to know whether or not gall stones may be present. And I think

I am in a better position to judge of the operability and the degree of operability of my patient if I study these factors myself, than if I am told these findings by someone who will not be present at the time of operation nor available during convalescence. I don't want my toxic goitre cases coming to me already iodinated, and I am foolish enough to think that I gain a better idea of an acute belly without the previous opinion of someone else or after someone has used some palliative measure. Now, I know that I am criticized for going out and making calls and looking after various complications that arise in my cases, or for listening while some poor woman details a long trend of nervous symptoms and advising some medical means of management instead of shortening her round ligaments. But these instances are as naught compared with the number of complaints of patients that they are passed about from one doctor to another, often at a considerable expense, and then finding no one whom they can depend upon to take care of them when they really get sick.

I say that we are way over-specialized among ourselves and over-standardized especially in the matter of the hospitalization of sick folks. Why, if I were to complete my hospital case records in all of the details outlined for a standardized hospital, I simply wouldn't have time to render my patients a fair service, but would be compelled to give at least half my time and attention to the writing of case histories and records. I fail to see the good the patient would derive from such an arrangement, and I claim that such a hospital record of an illness of several years ago will have scant value in studying that individual today. I am going to be governed by my own study of that case and not my somebody else's observation of several years gone by.

Then come frequent staff meetings with their compulsory attendance. In this day if a doctor attends all the meetings he is called upon to attend, he will hardly have time to get acquainted with his own family. Eddie Cantor's story about coming home after customary long absences, and being admitted by his

small daughter, who called out "Mamma, here's that man again," would almost apply to the average doctor now-a-days. I believe that the large number of meetings today detract greatly from interest in our County Society meetings, which are deserving of more rather than less support, for our county societies are the basis of our whole state and national organization, with problems of utmost importance which can be solved through no other agency.

Now, about fifty years ago the science of medicine was born, and since that day it has steadily and splendidly developed, but parallel with this has occurred a corresponding decline in the art of medicine as exemplified and practiced by the family doctor.

In the last fifty years more has been added to the sum of medical knowledge than in all periods of the world's history put together. I honor and praise the work of Pasteur and Lister in the development of surgery, of Koch in tuberculosis, of Behring and Klebs in diphtheria, of Ehrlich in the spirochetal diseases, of Roentgen in *x-ray*, of Laveran in malaria, of Gorgas in yellow fever, of Banting in diabetes, but gentlemen, the success of our profession in the last analysis must stand on our ability to gain the faith and hold the confidence of our followers. And who is to make this contact? Why, you all very well know that it has got to come through the family physician and the general practitioner. And what is becoming of him today? You know his type, his ideals, his ambitions, and what he represents. His reputation may be local and his contributions to the relief of suffering humanity, rather than to current scientific literature, but he occupies an enviable position in his community. He is beloved and respected by all. He is the advisor and counsellor of the family—he cares for them all in sickness and in trouble, from the grandmother to the newly arrived infant. He may be poor in scientific knowledge, but he is rich in human insight. Modern medicine may perfect his technique and widen his knowledge, but it must not lose his spirit and it must not permit scientific medicine, with

its specialism, to tear to pieces the very texture of the whole medical fabric. I classified the list of physicians in my own city according to my knowledge of their work, and almost fifty per cent are specialists. Weisscotten made a survey of 1,379 medical graduates of 1915 and ten years later only twenty-two per cent of them were engaged in general practice. He also reported that 74.1 per cent of the 1920 graduates expected to limit themselves to a specialty.

Now, I will grant you that by limiting one's field of activity he can gain a better knowledge of his particular branch, but there are those who claim to be specialists that are no better prepared in their line than is the family doctor. Many have become mere technicians, losing sight of disease as it affects the entire organism and are prone to find explanation of every symptom in the organs they treat. McGuire says, "Patients often suffer from special attention and general neglect—noses are pulled out of their eyes and beams left in their belly." To offset this disadvantage of specialization has come group medicine, which is a kind of medical team-work arrangement, combining a group of specialists, aiming to give a well rounded out service by a combination of efforts.

But above all, Kansas needs today more general practitioners, more family doctors, men who will go out and actually care for sick people in their homes. But our system of medical education today does not encourage preparation for general practice. With the better schools demanding a college degree as entrance requirement and the four years of medical school and one or two hospital interne years, they are making demands on their students which discourage preparation for general practice and they are making it prohibitive for the poor boy to study medicine. It was not so long ago that a poor man's son, with a high school education, could go three years to a school of medicine, and if he had the right stuff in him go out and become a safe and sane doctor of sick folks. There are plenty of examples of the truth of this statement in this room this morning. Of course, he was not a specialist, but, at

least, he realized this and was ready to refer cases requiring unusual attention to proper centers rather than to attempt procedures he might have been only too scantily trained to carry out. Along this line it seems to me that it would be a good thing to change our present laws so that a medical student could go straight through the summer session and get in twelve quarters in three years and be eligible to take state board examinations at the end of that period, instead of having to spread his twelve quarters of work over four years of time.

Now, this is not a plea for carelessness in diagnosis or treatment, and perhaps I am stressing the art of medicine too greatly, but it has seemed to me that we are overdoing the science of medicine. I do not mean that the general practitioner should not be alert to new and modern improvements. There can be no progress if one only follows a fixed rule. Today, more than ever before, the successful physician must keep himself informed on the progress of modern medicine. He is employed because of his presumed skill and ability to prevent, relieve and cure disease. His methods, his skill and his success will be balanced against the efforts of the best of his competitors by the laymen of his community, and his success or failure will depend upon his industry in keeping abreast of the times. The courses being given to the doctors of the state by the University of Kansas offer excellent opportunity for post graduate study. This movement is worthy of wider support from the profession of the state.

The economic problem, too, is one which should demand the profession's earnest consideration. Today there is a constantly growing tendency for certain health programs to be carried on by outside agencies at the expense of what should be legitimate income of the physician. I think that the profession is beginning to feel a real economic pressure today. Perhaps this is more than at any previous time. In many instances these outside activities are possible because of assistance and service rendered by physicians, who, because of good fortune of one kind or another, have reached an in-

dependent financial position. True, they may have succeeded by hard work and real ability and they are deserving of due credit therefor, but they must not lose sight of the fact that in many instances their success is in a large measure due to the support, allegiance and loyalty of their professional brothers, and that they, therefore, owe a distinct obligation to their fellow doctors. Too often when the necessity for consultation or operation arises the family doctor who has been in attendance on the case fades out of the picture. A doctor does not necessarily relinquish his interest in his patient through the act of calling in a specialist. I contend that the specialist is called in as a consultant and not to take the case out of the hands of the private physician and that the best interest of the patient is served when his doctor maintains contact with the specialist while the patient is under the latter's care.

Our President, M. L. Harris, speaking of this situation, says: "No degree of financial success, no degree of eminence or reputation, gives to any man the right to disregard the sound principles of medical ethics. The conduct of physicians at all times should be fair and honorable and just, not only to their patients, but to each other, to the profession and to the community."

I have hinted at some of the other economic problems of medicine in my earlier remarks. It is absolutely essential that we, as a body, begin to take cognizance of the business side of medicine. It is high time that we get down to earth and disillusion ourselves of the thought that the calling of medicine is so lofty that it is not to be thought of as a business. There is much discussion today as to the economic soundness of buying on the installment plan. Whether it is sound or otherwise, the fact remains that the average American working man of today has by high pressure salesmanship, been sold out for the next two to five years of every cent that he can save over and above actual necessities, and he hasn't a dollar to pay for sickness, which has been given no place in his budget. The installment plan is all right

if those people were urged to put those weekly payments into building and loan, and to pay for things out of such savings, but business has been able to place the cart before the horse, and, the doctor, not being a business man, is left holding the sack. As a matter of fact, often his own lax business methods lead to an indifferent attitude on the part of the patient towards his obligation to the doctor.

The trend of the times, whether we like it or not, is toward general health insurance of one kind or another. If these things come to pass we have no right to complain if we are given no voice in the scheme, so long as we continue to sit idly by and take no active part in the business of medicine. A lay organization has launched a study of the cost of medical care. This term in itself is misleading. It had best be referred to as the cost of sickness and if this is at all necessary, it should be the business of our own association. And along this line I am glad to say that the American Medical Association has recently considered the establishment of a Bureau of the Economics of Medicine. The trend of these socialistic movements is toward the standardization of the practice of medicine, with especial stress being laid on the provisions for the hospitalization of the middle class patient. And this middle class patient, mind you, makes up over ninety per cent of the population of the United States. Many large hospitals today are seeking endowments for maintaining hospital service for this class of patients. These same institutions are limiting the fees the attending physicians may charge these patients. And these institutions are entirely in the hands of lay boards. Now, these things may all be very desirable in the cities, but let us remember that ninety per cent of the practice of medicine in this land of 120 million people, is practiced in communities of 10,000 population or less. And if the public and the profession will awaken to the fact that the great majority of these people can be given adequate care in their homes, the magnitude of the hospitalization problem would be greatly reduced. The public can easily

be appraised of this fact, and encouragement and patronage given to the doctor, whose own convenience is not uppermost in the care of his sick patients.

William Allen Pusey wrote: "What we need to do is put the practice of medicine back in the homes of the patients, where ninety per cent of it belongs. The essential thing in doing this is to produce doctors that can, as they should, treat this ninety per cent of the illnesses that come to them. There are a few people who can afford every convenience and luxury and who prefer the hospital to their homes in their illnesses. The other patients are going to the hospitals for so much of their services because we are sending them there—because men in the practice, who can do as they please with their patients, find it more convenient to send them there, and because we are not producing doctors to do general practice. This last is what is needed to make sickness less expensive, to enable patients, therefore, to pay their bills, and to put the practice of medicine under the control of physicians rather than institutions."

And so I humbly offer these suggestions: More family doctors for Kansas. A plea for greater industry and earnestness on the part of our present members. A happier admixture of the art and the science of medicine. A better understanding among ourselves and an appreciation of the obligations of one doctor to another. And finally to the centralization of the too numerous medical programs of today into a strong central unit, the County Medical Society, and in this a program for medical economics.

And, now, in closing let me assure you, insofar as my words may express, of my sincere and profound appreciation of being permitted to serve as your presiding officer. I want to take this opportunity to thank all of the officers, the council, and the members of our standing committees for their ever ready help and counsel. I felt it a splendid exhibition of loyalty last winter to receive acceptances of one hundred per cent of the men whom I asked to serve as chairmen of these committees. From them all I have received the most kindly assist-

ance and counsel. And from the members at large I have received encouragement at every turn.

For all this splendid loyalty I wish to make sincere acknowledgment.

—R—

A Report of An Unusual Anomaly, Volvulus Occurring In the New Born

LESLIE LEVERICH, M.D., Kansas City

This baby was born at term and apparently normal in every way except that it had a large abdomen. The mother, a woman twenty-five years of age, in perfect health, had given birth to a child previously that lived but thirty days and died of congenital heart disease, diagnosed clinically. The present pregnancy and labor were normal in every particular, the foetal heart tones were good and there was nothing to indicate any abnormality before delivery. The abdomen being distended, my first thought was some abnormality of the rectum, but as same was found to be patent on passing a catheter, an opaque media was introduced which showed no obstruction, but a very small colon (about one-third of the normal size) which extended to the caecum. Twelve hours later the media in the colon occupied the same position and was of the same appearance. Three hours after placing half an ounce of barium suspension in the stomach none had left the stomach, but when the patient was turned on its right side a small amount was spilled into the duodenum. Twelve hours later the stomach was empty and two coils of the small intestines were barium filled. These coils were to the left of the median line and there were other coils in the same area that were gas distended. These findings according to our radiologist, Dr. L. G. Allen, seem to indicate an obstruction in the small intestine. The failure of the colon to change the position of the opaque content might argue the obstruction to be due to a lack of normal peristaltic movements for the same reason. Feeling that nothing could be gained by operation we simply gave a five per cent solution of glucose and waited for the end. The child became jaundiced about twenty-four hours after birth, some blood was passed from the oral cavity, the ab-

domen became more distended and there was never any meconium passed. This child lived ninety-four hours and the following report of Dr. W. R. Wahl, pathologist at Bell Memorial Hospital,



Arrow points to volvulus showing the band-like constriction of small intestine.

shows, as he states, a rather curious and unusual anomaly.

Main Gross Findings: The body is that of a newly born female infant weighing about seven pounds. Skin is extremely jaundiced and shows a small petechial area over external maleoli and on left ear. Rigor mortis absent. Livor mortis over back. Abdomen is distended. External genitalia appear normal. Extremities are normal, palms of hands, soles of feet show no abnormalities or lesions.

Peritoneal cavity. The peritoneum shows many adhesions to the intestines. Upon opening into the adhesions, fluid of a brownish red color, thick in consistency and about 150 c. c. in quantity. This fluid was found to extend over the entire intestines, under the liver, and into the lesser peritoneal cavity. Adhesions to the cavity lining was marked. Over the small intestines thick brownish adhe-

sive tags were present. The small intestines are markedly distended. The colon is small, the lumen is narrow. The organs are pushed up by the peritoneal mass.

Thoracic cavity. No free pleural fluid. No adhesions. Thymus weighs eight grams. Lobulations are distinct. Heart weighs twenty-two grams. Pericardial surface is smooth. Muscle is quite firm. Chambers contain post mortem clots. The foramen ovale is functionally closed. Ductus arteriosus is closed. Endocardium is smooth and the valves show no anomalies as to structure nor abnormalities in size.

Lungs. Pleural surface is smooth. There are many subpleural hemorrhages scattered throughout the lungs. Both lungs are somewhat atelectatic but some crepitation is present. Bronchi are open.

Liver weighs approximately 100 grams. Surface is smooth, under surface of liver contains some adhesions. But surface of



Shows the small colon and distended portions of the small intestines.

liver shows normal lobulations. Gall bladder contains some bile. Biliary passages are patent. Spleen weighs eight grams. Surface is smooth and normal in shape. Cut surface shows the pulp to be dark red in color.

Pancreas shows normal lobulations and weighs eleven grams.

Kidneys weigh 22 grams and show fetal lobulations. Capsule strips easily. Cortex and medulla normal. No abnormalities seen. Pelvis and ureters appear normal. Adrenals weigh 7 grams and appear normal.

Gastro-intestinal tract — *S t o m a c h*: Small and contains slight amount of hemorrhagic fluid. Intestines are markedly distended. Eight c. m. from the ileo-cecal valve there occurs a twist in the small intestine, the distal portion being twisted anteriorly in front of the proximal part. At the junction the intestine was markedly thinned out and fibrous like, preventing any food from entering. The proximal portion is pushed through the distal mesentery and turns about itself. The intestine proximal to the "knot" is markedly distended. The surface of the intestine is covered by a fibrinous exudate and some fibrous adhesions. The ileo-cecal valve is patent. The large intestines are narrow. The lumen is small and contains a thick paste-like substance.

Provisional Gross Anatomical Diagnosis—Congenital internal hernia and volvulus; atresia of colon; peritonitis with hemorrhage; subpleural hemorrhage.

Histological Pathology — The heart presents the usual infantile appearance, the muscle fibers being embryonic in character. Nothing abnormal is seen. In the lungs many of the bronchi are disintegrated and broken down and often contain pus cells. There is a gradual transition between the bronchi that are broken down and contain pus cells and diffuse leukocytic infiltration in the interstitial tissue, polynuclear leucocytes being particularly abundant in the lung frame work. They are also frequently seen in many of the alveoli, particularly those around the bronchi. The liver is a little peculiar. The lobulation is obscure. Foci of myeloid cells are scattered throughout. The liver cells are swollen and frequently contain bile pigment granules. Some vacuolization of the cytoplasm is occasionally seen. Some of the

canaliculi and the capillaries are also distended with bile.

There is another section apparently taken through a lymph gland that shows extensive areas of caseation surrounded by a capsule of fibrous tissue. The spleen is quite vascular and presents the usual undifferentiated infantile appearance.

The kidney shows some swelling of the cells and beginning vacuolization of the cytoplasm. Hyaline casts are seen in a few of the tubules. Otherwise they present a typical infantile appearance. The adrenal glands show quite a little autolysis, congestion and hemorrhage in the medulla. Otherwise there is nothing abnormal.

The pancreas presents much more fibrous tissue than is usual. Some of the blood vessels are congested and contain many polynuclear leucocytes. Both an acute and a chronic inflammatory reaction is seen. The picture somewhat suggests phthisis though it is not typical.

COMMENT

The patient had two kinds of acute infection, one is a broncho and interstitial pneumonia, the other is a generalized peritonitis resulting from strangulation of a loop of intestine which seems to be twisted around in an unusual way and caught in an internal hernia, apparently a gap that is present at the root of the mesentery. Partly this seems to involve the lower end of the ileum and a portion of the caecum. It presents a rather curious and unusual anomaly. You can readily see in illustration (*x-ray*) the small colon extending to the caecum, also some of the small intestines greatly distended. The other illustration taken post mortem, shows very distinctly the relative size of all the internal organs, the distended small intestines, the small band-like constriction at the seat of volvulus and the small transverse colon.

—R—

TUBERCULOSIS ABSTRACTS

Tuberculous ulceration of the intestines is a common complication of pulmonary tuberculosis. It is probably a terminal phenomenon in the majority of cases of chronic phthisis. A review of the literature contributed by experienced

clinicians, seems to indicate that in from 50 to 75 per cent of the cases the diagnosis of intestinal involvement, in cases of pulmonary tuberculosis, is missed. The reason for this is that nearly all symptoms and signs, including the roentgenological findings usually considered diagnostic, are highly unreliable. In a series of 199 necropsies performed in Montefiore Hospital in New York, and reported by M. Maxim Steinbach, about 63 per cent showed more or less extensive involvement of the intestines. Of these, not more than 38.6 per cent were diagnosed during the life of the patient though careful watch for the complication was constantly maintained. Abstracts from Dr. Steinbach's report and comment follow:

INTESTINAL TUBERCULOSIS

While it is possible for the intestine to become involved in a generalized tuberculous infection, in most instances the condition is secondary to pulmonary tuberculosis, and is caused by the swallowing of tuberculous sputum or by hematogenous deposit. The earliest and most usual distribution of lesions is in the region of the ileocaecal valve. Other portions of the bowel may become involved later, though tuberculosis of the stomach is exceedingly rare. Common symptoms and signs are diarrhea, constipation, cramp and tenderness. Sometimes a mass may be felt in the ileocaecal region. In general, the findings, while suggestive, are not sufficiently clear cut to warrant an exact diagnosis.

STIERLIN'S TECHNIQUE

Stierlin in 1911 described roentgen-ray findings which he believed to be definitely diagnostic of intestinal tuberculosis. He gave two glasses of a liquid bismuth meal and took roentgenographs after 6, 8 and 24 hours. In tuberculous involvement of the intestine, the caecum and ascending colon revealed no shadows whereas the terminal ileum and transverse colon were filled. The explanation he gave for this is that as the result of the ulceration in the ileocaecal region, irritability and motility are increased and the bismuth is quickly passed along. In some cases, Stierlin found a partially filled portion of the colon with fine marbling or long-drawn-out shadows which he attributed to the retention of bismuth by the ulcerations. Studies made subsequently by others discount somewhat the reliability of Stierlin's sign, as it may occur in any ulcerative or indurative changes in the caecum, which Stierlin himself admitted. On the other hand, the sign is lacking very often in cases of tuberculosis in that region of the gut.

TRUDEAU STUDIES

Brown and Sampson applied Stierlin's technique and in an early publication reported 39 cases diagnosed by the roentgenograph, of which 38 were corroborated by surgical exploration of the abdomen. In a later monograph on this subject, published in 1926, they state:

Since 1918, 2,595 patients have been studied in the roentgen ray department of Trudeau, in regard to the presence or



5 hours: barium in terminal ileum; colon filled; caecum empty.

9 hours: defective filling of caecocolon.

24 hours: barium in splenic flexure and caecum.

absence of intestinal tuberculosis. In all these patients, a diagnosis of pulmonary tuberculosis had caused them to seek treatment. In 867 patients, a positive diagnosis was made, and in 1,726 tuberculous colitis was excluded. Of the negative group, 46 went to operation or autopsy, and in 44 tuberculous colitis was absent, while in 2 it was present. In the 62 cases diagnosed as positive by the roentgen ray method which went to operation or autopsy, all had tuberculous colitis.

MONTEFIORE STUDIES

Encouraged by the work of Brown and Sampson, Steinbach studied during the past six years, 273 cases at Montefiore Hospital, of which 71 cases came to necropsy. Four cases were excluded because of faulty technique, leaving 67 cases in which it was possible to correlate the roentgen findings with those of necropsy. Care was taken to excise, wash and inspect the intestinal mucosa as lesions are often confined to the mucosa and submucosa and are not visible through the serosa. Often the ulcerations are found only after microscopic search. The 67 cases thus correlated are divided into two groups; Group I embracing those in which roentgen and necropsy findings were in agreement, and Group II those in which they did not agree. The results are tabulated as follows:

<i>Group I. Thirty-two cases of agreement between roentgen and necropsy findings</i>	
Roentgen and necropsy findings both positive	20 cases
Roentgen suggestively positive, necropsy positive	5 "
Roentgen negative, necropsy negative	7 "
	—
	32 "
<i>Group II. Thirty-five cases of disagreement between roentgen and necropsy findings</i>	
Roentgen positive, necropsy negative	3 cases
Roentgen negative, necropsy positive	18 "
Roentgen indefinite, necropsy positive	6 "
Roentgen indefinite, necropsy	

negative	4 "
Roentgen negative, necropsy showing lesions in small gut only	4 "
	—
	35 "

WHY FINDINGS DISAGREE

Special investigations were made to discover why in certain cases the roentgen and necropsy findings did not agree. After citing specifically several case histories, the author concludes that "these cases illustrate that defect in filling of caecum and ascending colon, associated with hypermotility, is not always pathognomonic of tuberculous colitis, but may be present in other conditions of the large and small intestines in which there is irritability resulting in diarrhea. Fishberg enumerates the commonest causes of diarrhea in tuberculous patients as follows: (1) intestinal ulceration, (2) intestinal catarrh, (3) dietetic errors, (4) amyloid degeneration, (5) swallowing of sputum, and (6) toxemia. It is easy to see that any one of these above enumerated causes may produce the classical clinical signs of tuberculous enteritis without the presence of intestinal ulceration."

Conversely he finds that, "absence of hypermotility and defect in filling does not exclude tuberculous colitis or enteritis or a combination of the two."

CONCLUSIONS

The final conclusion is that "on the basis of 67 cases of far-advanced pulmonary tuberculosis, studied clinically, roentgenologically and at autopsy in relation to a diagnosis of tuberculous ulceration of the intestines, we have found that the roentgenological signs usually considered diagnostic of this condition were highly unreliable in over 52 per cent of our cases."—*Comparative Radiographic and Anatomical Studies of Intestinal Tuberculosis. M. Maxim Steinbach, Am. Rev. of Tuberculosis, January, 1930.*

R

RELAXATIVES

Sam: "Where can I get some quinine?"
 Ham: "What do you want with quinine?"
 Sam: "The doctor said I must take whisky and quinine, and I don't know where to get quinine."

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THE ANNUAL MEETING

It was at the semi-centennial meeting of the Society held in Topeka in 1916 that the "guest-day" was first introduced. That meeting established a new record for interest and attendance. Subsequent meetings have followed the plan introduced at that time with one very important exception—six guest speakers have been on the program but on different days. For this meeting the Council reverted to the "guest-day" plan with the result that another new record for interest and attendance has been established.

In spite of the heavy rains which delayed trains and stopped automobiles the attendance on the first day reached over two hundred. On the second day the convention hall was crowded to its capacity and on the third day the registration had reached five hundred eleven.

Our guests were fully appreciated and the hall was crowded continually on Wednesday. Dr. Fishbein gave a public address at Memorial Hall Wednesday evening and that hall was crowded to its doors. It has been a long time since the members of the Society were given such

an intellectual treat as they received at this meeting. Perhaps it will be some consolation to those who were unable to attend to know that all of these addresses will be published in the Journal during the next few months.

The program as a whole was much above the average and some very excellent papers were read on Tuesday and Thursday. These were no vacancies on the program but by special arrangement some cases of "jake paralysis" were shown and case histories read by Dr. Kaster and Dr. Perry.

The first meeting of the House of Delegates on Tuesday evening was well attended and the business was conducted in unusually orderly fashion. The second meeting on Thursday morning for the election of officers was equally well conducted. The election of Dr. Duncan president-elect was not contested nor was the election of any other officer. Two new councillors were elected, Dr. Hardesty of Jennings was elected to fill the vacancy caused by the removal of Dr. Kenney in the Ninth District, and Dr. Shannon of Hiawatha was nominated for councillor of the First District by Dr. Reynolds, the retiring councillor, and was elected.

ETHICS OF CONTRACT PRACTICE

The medical profession of Kansas is perhaps no more concerned in the ethics of various forms of contract practice than the profession of other states, and were it not for some special problems that have developed during the last few years, the usual tranquility or indifference would still prevail.

No question as to the ethics of industrial medicine has ever been raised or at least it has never been seriously discussed. Nevertheless industrial hospital organizations have not up to this time been exempted from the provisions of

Section 2 of Article VI of the Principles of Ethics: "It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession."

Although the ethics of those forms of contract practice grouped under the head of industrial medicine is not now a subject for discussion, it is the basis for comparison in any effort to determine the ethics of other forms of contract practice. Industrial medicine is regarded as an economic necessity, upon it depends the maintenance of efficient man power and upon efficient man power depends economic production. Therefore we must not interfere with it. But we may inquire as to what particular features distinguish the various forms of industrial contract practice from the various forms of non-industrial contract practice. In the majority of the former organizations the beneficiaries are employees of the particular industry maintaining the hospital organization, in some of them the expense is borne entirely by assessments upon the employees while in others the expense is divided between the employees and the employers—or one should say between the employees, employers and doctors, because the doctors bear that part of the expense which is the difference between the cost of the medical service to the association and what the same amount of service would cost if rendered to individuals by private practitioners.

In non-industrial contract practice, such as that maintained by fraternal or insurance associations, the service is limited to members of the association and

these may be gathered from many industries, trades or professions. The expense of the service is borne by the members and the doctors and the profit, if there is any, accrues to the reserve capital of the association.

Evidently there is little if any difference in the basic features of the two groups of organizations. Of course there is a wide difference in the amount of the assessments, but then an assessment of ten cents a month is only a little less ridiculous than one of fifty cents a month.

Any and all of these organizations are possible only because physicians are easily found who are willing to dispose of their services under conditions that make it impossible to render adequate service to their patients and which interfere with reasonable competition among the physicians of the community. At the annual meeting of the American Medical Association last year a resolution was adopted requesting the Judicial Council to submit to the House at this session: "a comprehensive statement for the guidance of the American Medical Association concerning the practice of medicine by corporations, by clinics, by philanthropic organizations, by industrial organizations, by demonstrations and by similar organizations, and concerning the relationship of physicians thereto."

In the advance report of the Judicial Council published in the May 17 number of the Journal of the American Medical Association it will be noted how impossible was the task assigned them.

Attention is called to the following sentence in this report: "Some conditions requiring study have been so lately created and are undergoing such rapid changes that quick appraisals cannot be made." Before this time next year there will be numerous other conditions and

numerous other changes will have occurred. The longer the adoption of some policy by the Association is delayed the more impossible it will be to formulate one to meet the complicated situations constantly developing.

But what attitude is possible except quiet submission to whatever fate the predominant interests of the country consign us.

Industrial medicine is an established fact already accepted and approved. State medicine in the guise of public health service is an unassailable reality of immense proportions. The foundation is being laid for commercializing these principles in the form of sickness insurance associations for all classes.

It is still possible for the medical profession to protect what remains of its field by going into competition with the various corporations in exploiting medical service. If it is profitable to corporations of laymen it should be profitable to corporations of physicians. The trouble with that sort of a proposition is that those who have an established lucrative practice would be opposed to it and the other fellows would give neither the prestige or backing necessary to make it succeed. Of course we will never seriously undertake to reorganize the profession after the plan of labor unions, and yet we might learn something of value from them. Recently a brick mason who was both fast and skillful was accosted by a fellow mason. "Say, brother, you only get paid for one man's work. Why beat some other man out of a job?" In another organization long hours are often required, but the men are entitled to extra pay for overtime. However, a regular employee is not permitted to work overtime if there is a member of the union out of work. The rules and regulations of these labor unions embody the same principles of fairness to each

other as those promulgated in our principles of ethics. However, they have made some effort at practical application while with us they are still in the theoretical stage.

The apathetic attitude of the members of the medical profession toward the rapid encroachment of commercial interests upon our legitimate field is probably due to the fact that a large majority of them still hold to the traditional ideals of the practice of medicine and will continue to devote their energies in self-sacrificing service to suffering humanity, accepting with gratitude whatever of their surplus income their beneficiaries may bestow upon them, and when age and decrepitude have restricted their usefulness and exhausted their resources, starve like gentlemen, still sustaining the dignity of the profession.

R CHIPS

Just which of the many metabolic disturbances that characterize diabetes mellitus is responsible for the development of arteriosclerosis in such a large per cent of diabetics has not so far been determined, but recent researches seem to indicate that the responsibility lies mostly in the disturbance in the metabolism of fats. Shepardson has reported the results of his studies on fifty cases in the May number of the *Archives of Internal Medicine*. These cases were all under forty years of age and all had had the disease for at least five years. Thirty-six per cent of these cases gave roentgenologic evidence of arteriosclerosis. He also states that "the average values of blood cholesterol found in this group were markedly lower than those heretofore obtained and paralleling the reduction of lipemia, the incidence of arteriosclerosis was found to be greatly reduced. The definite lessening of the intensity of the damage resulting from prolonged exposure to diabetes, consequent on the addition of insulin to diabetic therapy, has resulted in a marked lowering of the average blood lipid content. The parallel reduction in the inci-

dence of arteriosclerosis apparently necessitates the assumption that altered fat metabolism is the morbid factor in the development of vascular disease in association with diabetes mellitus."

The generally accepted theory that polyneuritis and beriberi are diseases caused by a deficiency of vitamin B in the diet must be modified if the conclusions reached by Teru-uchi and his co-workers are confirmed. In the October number of the *Japan Medical World* they report a series of experiments in which it seems to have been demonstrated that polyneuritis is caused by a poisonous substance named "oryzatoxin" which can be extracted from polished rice with alcohol. Typical polyneuritis was produced in fowls by injecting a solution of this poison even when they were receiving adequate amounts of vitamin B in the diet. It has been observed that fowls fed on polished rice powder with a definite proportionate amount of the rice germ did not develop the disease. It was shown that in fowls in which the disease was produced by injecting oryzatoxin it could be cured by feeding vitamin B. Experiments were conducted on fowls, dogs and men and the results were the same. It was also found that this poisonous substance could be extracted from wheat with alcohol, but not from bread because it is destroyed by heat.

The first serious attempt to standardize a method for the examination of tonsils and the estimation of the relationship of infections found therein to the presence of systemic disease seems to have been made by Ramsay and Pearce. They used direct puncture into the substance of the tonsil and examined the aspirated material according to standard methods. More than 150 tonsils from patients varying in age from 5 to 50 were then examined. Only 17 were found to be sterile on culture. Streptococci were present in a large majority of the remainder. It was suggested that when the tonsils are found to be infected, the organism found should be tested against the patient's blood to determine the resisting power. If the immunity of the

blood is impaired the tonsils should probably be removed. Further studies and experiments along this line might be well worth while.

Modern views on the etiology and treatment of asthma have been vastly beneficial to a large proportion of the sufferers from this affliction but the problem has not yet been completely solved. There are still too many who in spite of modern treatment continue to have asthma. Peshkin discusses this matter in the April number of the *American Journal of Diseases of Children* and says: "Allergy per se cannot be explained entirely on a basis of protein sensitization, because the sensitizing substances in themselves are merely exciting factors and not the basic cause of the symptoms. A patient in a state of 'physicochemical equilibrium' enjoys freedom from symptoms in spite of exposure to etiologic substances. If any factor overthrows this governing mechanism, symptoms will appear. These factors may be specific or nonspecific or both. An appreciation of this fact will aid in establishing a clearer conception of asthma and will lay the foundation for a more intelligent management of the disease in childhood." No doubt he is correct but one would feel more certain of it if a more explicit definition of "physicochemical equilibrium" had been given. That environment is in some way involved in its disturbance seems to be implied, but that does not explain how or why. To give a name to something that is not understood facilitates discussion but fails to clarify one's conception of the matter.

That pain in the gall-bladder region may be occasioned by cholecystitis alone, and that gall stones may exist in the gall-bladder for considerable periods is borne out by a study of the records of 879 patients, reported by Rivers and Hartman in the April number of *Archives of Internal Medicine*. Gall stones were discovered in 106 cases in which a preoperative diagnosis of cholecystitis alone had been made, and gall stones were not found in 15 per cent of the cases in which a preoperative diag-

nosis of cholelithiasis was made. The authors think that "the presence or absence of gall stones, or the question whether the inflammatory reaction in the gall bladder is acute or subacute, is not of vital importance in a case of surgical cholecystitis."

Thompson and his associates report their results in the treatment of exophthalmic goiter with iodine, in the April number of the *Archives of Internal Medicine*. The group of cases included fourteen mild cases and ten severe cases. The iodine treatment was continued for varying periods from six months to three years. In seven of the fourteen mild cases the symptoms disappeared and there was no recurrence after considerable periods of cessation of treatment. There was improvement in all but two of the mild cases and in these the symptoms were not aggravated by the iodine treatment. In the ten severe cases the results were different. Satisfactory results were obtained in only one of these, there was no permanent improvement in four and in five the symptoms became worse. The authors conclude that such results are likely due to the fact that the iodine held the disease in check while it pursued its natural course toward recovery.

Robinson in the *Lancet*, March 29, discusses the results of short circuit operations in the treatment of cholecystitis. By short circuit operations is meant either cholecystogastrostomy or cholecystoduodenostomy. In his opinion in all cases where destructive changes are present or suspected, or are deemed likely to supervene in parts of the biliary tract other than the gall-bladder permanent relief is produced by this operation. He says: "My own results lead me to favor the view that where the gall-bladder is comparatively healthy, except for the presence of calculi and the cystic duct is patent, it should prove the operation of choice in cholangitis, in stricture, and in any case where the head of the pancreas is found to be hard." While he himself has seen no clinical evidence of infection in cases where disease was localized to the gall-bladder, he feels that

on account of the conflicting opinions in regard to the risks and degree of ascending infection further evidence should be obtained before the operation can be regarded as an alternative to cholecystectomy in such cases.

—R—

DEATHS

Millard F. Marks, Valley Falls, aged 71, died April 24, of cerebral hemorrhage. He graduated from the Kansas City Medical College, Kansas City, Mo., in 1888. He was at one time a member of the state legislature.

Joseph Elias Miller, Salina, aged 67, died April 29, of carcinoma of the bladder. He graduated from Jefferson Medical College, Philadelphia, in 1886. He was on the staff of Asbury Protestant Hospital. He was a member of the Society.

George W. Gabriel, Parsons, aged 89, died April 29. He was graduated from the Kansas City Medical College, Kansas City, Mo., in 1871. He had been a state senator and a representative and had been mayor for several years. He had practiced for 57 years.

B. P. Dudley, Silver Lake, aged 73, died at Excelsior Springs, Mo., recently. He was graduated from New York University Medical College in 1882.

Louis W. Minick, Wichita, aged 66, died April 13 of pneumonia. He was graduated from the Homeopathic Medical College of Missouri, St. Louis, in 1894.

George N. Hartwell, Jamestown, aged 76, died May 20 from angina pectoris. He was graduated from the University of Michigan in 1878. Had practiced in Jamestown since 1879.

Robert G. Koger, Cheney, aged 50, died May 14, from cerebral hemorrhage. He was graduated from Kentucky Hospital College of Medicine in 1905.

—R—

Conductor—How old is this boy?

Lady—Four.

Conductor—How old are you, sonny?

Sonny—Four.

Conductor—Well, I'll let him ride free this time, but I know what he's gonna be when he grows up.

Lady—What is he gonna be?

Conductor—Either a liar or a giant.

Proceedings of the Seventy-Second Annual Meeting of the Kansas Medical Society, Held at Topeka, Hotel Jayhawk, Tuesday, Wednesday and Thursday, May 6th, 7th and 8th, 1930.

MEETING OF THE HOUSE OF DELEGATES

The House of Delegates met in the Convention Hall of the Jayhawk Hotel at 7:40 p. m. The meeting was called to order by the president, Dr. E. S. Edgerton. On motion the minutes of the last meeting were not read, owing to their previous publication in the Journal.

SECRETARY'S REPORT

To the House of Delegates of the Kansas Medical Society.

I desire to submit the following report for the year ending May 1, 1930:

Financial Statement

Balance on Hand May 1, 1929:		
Medical Defence	\$7,318.95	
General Fund	6,085.98	
	<u> </u>	\$13,404.93
Cash Received from all Sources for the Year Ending May 1, 1930:		
Dues from members	\$9,810.00	
Check from editor	1,015.45	
Interest reported by treasurer...	249.57	
	<u> </u>	\$11,075.02
		<u> </u>
		\$24,479.95
Expended for the Year Ending May 1, 1930:		
Medical Defense	\$1,549.54	
General Fund	6,574.34	
	<u> </u>	\$ 8,123.88
Balance on hand May 1, 1930	\$16,356.07	
Standing of Funds May 1, 1930:		
Medical Defense	\$8,653.41	
General Fund	7,702.66	
	<u> </u>	\$16,356.07

These reports of the Kansas Medical Society are practically the same from year to year, varying but little as to membership, or as to increase or decrease of the funds. This year, however, you will note an increase in the General Fund over that of last year. This you may readily conclude is due not to an unusual increase in the membership, but to the increase in the dues of the members.

The membership at the present time is 1,381 as against that at the time of last year's meeting which was 1,412. We find there are about 215 delinquent members in the Kansas Medical Society; but we think this is perhaps due, in part, to the change of location of an unusual number of doctors of whose new addresses we have not been advised. Also, we may

attribute the delinquency somewhat to the depression in business which is general, not only in our own state but throughout the nation. The membership year, as you know, is from January 1 to December 31 and we numbered 1,518 members on December 31, 1929, while the three preceding years showed the following membership: December 31, 1928, 1,504; December 31, 1927, 1,493; December 31, 1926, 1,526, which was our banner year. We feel quite confident that when December 31, 1930, rolls around our membership will have attained about the same number, perhaps it will be more. We hope so.

I feel very grateful to the county secretaries for their co-operation throughout the year and especially at the time of the preparation of the program. Their ready responses to the call for papers from the various societies was indeed a pleasant experience, and I thank the members who have contributed to the program.

To our president, Dr. Edgerton, I have only high praise and appreciation for his help and counsel throughout the year. And to our honored guests, who have traveled these many miles, giving of their time and experience for our profit and pleasure, I want to express my appreciation and thanks and that of the Kansas Medical Society at large.

Respectfully submitted,

J. F. HASSIG, Secretary.

Report accepted and filed on motion by Dr. C. C. Stillman, regularly seconded and carried.

TREASURER'S REPORT

To the House of Delegates of the Kansas Medical Society.

As treasurer of the Kansas Medical Society, I herewith submit the following report for the fiscal year ending April 30, 1930:

Standing of Funds May 1, 1929:		
Medical Defense	\$ 7,318.95	
General Fund	6,085.98	
	<u> </u>	\$13,404.93
Cash Received From:		
Secretary	\$10,825.45	
Interest on liberty bonds	249.57	
	<u> </u>	\$11,075.02
		<u> </u>
		\$24,479.95
Expended for Year Ending May 1, 1930:		
Medical Defense	\$ 1,549.54	

General Fund	6,574.34	
		\$ 8,123.88
		<u>\$16,356.07</u>
Standing of Funds May 1, 1930		
Medical Defense	\$ 8,653.41	
General Fund	7,702.66	
		\$16,356.07

The expenditures of the Defense Fund for the year ending May 1, 1930, were \$925.49 less than the preceding year. The expenditures of the General Fund for the past year were \$250.83 less than in the previous year. The expenditures of the two funds are herewith itemized:

DEFENSE FUND

Date	No. of Voucher	To Whom Drawn	Amt.
May 10, 1929	121	J. D. M. Hamilton ...	\$ 137.78
June 1, 1929	122	O. P. Davis	75.00
June 26, 1929	123	J. D. M. Hamilton ...	153.89
Aug. 9, 1929	124	O. P. Davis	75.00
Aug. 12, 1929	125	J. D. M. Hamilton ...	95.00
Sept. 14, 1929	126	J. D. M. Hamilton ...	99.98
Oct. 11, 1929	127	J. D. M. Hamilton ...	75.00
Nov. 2, 1929	128	O. P. Davis	80.50
Nov. 5, 1929	129	J. D. M. Hamilton ...	177.75
Nov. 12, 1929	130	Amer. Med. Assn.	5.00
Dec. 20, 1929	131	J. D. M. Hamilton ...	97.29
Jan. 15, 1930	132	J. D. M. Hamilton ...	150.00
Feb. 6, 1930	133	O. P. Davis	75.00
Feb. 11, 1930	134	J. D. M. Hamilton ...	78.20
Mar. 5, 1930	135	J. D. M. Hamilton ...	75.00
Apr. 9, 1930	136	J. D. M. Hamilton ...	99.15

Total Expended ... \$1,549.54

GENERAL FUND

Date	No. of Voucher	To Whom Drawn	Amt.
May 9, 1929	231	J. W. Neptune	\$ 200.00
May 9, 1929	232	Lamer Hotel	44.15
May 15, 1929	233	W. E. McVey, Editor.	2,000.00
May 15, 1929	234	J. F. Hassig	1,504.38
May 15, 1929	235	E. E. Liggett	11.17
May 15, 1929	236	Philip H. Kreuscher.	53.52
May 29, 1929	237	Harriet Collins	10.00
May 29, 1929	238	J. D. M. Hamilton ..	150.00
June 13, 1929	239	W. S. Lindsay	10.22
June 13, 1929	240	O. P. Davis	10.55
June 15, 1929	241	W. E. McVey, Bureau	209.00
June 2, 1929	242	The Evans Press ...	17.50
July 16, 1929	243	Chas. Hugh Nelson...	50.00
July 30, 1929	244	Amer. Med. Assn....	12.00
Aug. 20, 1929	245	W. E. McVey, Bureau	200.00
Oct. 22, 1929	246	W. E. McVey, Bureau	200.00
Dec. 9, 1929	247	W. E. McVey, Bureau	200.00
Jan. 16, 1930	248	Amer. Med. Assn....	11.50
Jan. 28, 1930	249	W. E. McVey, History	176.76
Jan. 28, 1930	250	J. F. Hassig	704.91
Jan. 28, 1930	251	E. S. Edrington	27.82
Jan. 28, 1930	252	P. S. Mitchell	57.50
Jan. 28, 1930	253	O. P. Davis	9.35
Jan. 28, 1930	254	J. T. Axtell	23.36
Jan. 28, 1930	255	Alfred O'Donnell ...	12.00
Jan. 28, 1930	256	I. B. Parker	29.85
Jan. 28, 1930	257	C. H. Fwing	35.00
Jan. 23, 1930	258	W. F. Fee	45.00
Jan. 28, 1930	259	J. F. Gsell	10.50
Feb. 3, 1930	260	C. C. Stillman	16.15
Feb. 19, 1930	261	W. E. McVey, Bureau	200.00
Mar. 13, 1930	262	W. W. Bowman	7.50
Apr. 24, 1930	263	The Evans Press ...	114.00
Apr. 25, 1930	264	W. E. McVey, Bureau	200.00
Apr. 25, 1930	265	St. Louis Button Co.	19.35

Total Expended ... \$6,574.34

In preparing your budget for the coming year, you should consider that there will of necessity be an added expense, caused by the efforts to rid the state of undesirable practitioners and quacks.

Respectfully submitted,

GEO. M. GRAY, M.D., Treas.

Report accepted and filed on motion by Dr. Alfred O'Donnell, regularly seconded and carried.

Dr. C. W. Reynolds, Councillor of First District, made a motion that the reading of the Councillors' reports be omitted and that the reports be handed to the Secretary, which was regularly seconded and carried.

COUNCILLORS' REPORTS

First District, Dr. C. W. Reynolds, Councillor, Holton, gave the following report:

As councillor of the First District, I beg to submit the following:

Conditions in our district are only fair. The counties having the larger number of doctors have the best and most active societies. Atchison County has a well organized society, but the secretary complains of the difficulty in getting its members to attend the meeting. I have received no report from Doniphan County. Brown County has a very much interested membership and is very active with regular monthly meetings. Nemaha County has a very much interested membership and is very active with regular monthly meetings. Nemaha County reports all physicians being members of the Society with regular meetings. Marshall County has a good membership in the society; but unfortunately several physicians in the county are not members of the County Society. Washington County maintains an association, but there being but nine physicians in the county, conveniences for meetings are not good. No meeting has been held for a year or more. The physicians attend meetings in adjoining counties when possible. Riley County has a well organized society, with almost all physicians as members and with regular and well attended meetings. Jefferson and Pottawatomie counties have no organization as they have a few physicians and find it more advantageous to have their mem-

bership in adjoining counties. In my own county of Jackson, we maintain our organization which is composed of but few physicians, but we have occasional meetings to discuss existing conditions and promote mutual understandings.

All physicians in the first district are much interested in the present campaign against charlatanism and quackery.

C. W. REYNOLDS, Councillor.

Second District, Dr. L. B. Spake, Councillor, Kansas City, gave the following report:

As Councillor of the Second District, we beg to submit the following report: The majority of our societies are having regular meetings, or are co-operating with adjoining societies in their meetings. Wyandotte County Society has been holding very interesting meetings, the secretary having the program on the symposium order with a wide range of subject matter. Each subject has been taken up by three men, each man on a different angle, which has made the meetings well attended and very instructive.

LA VERNE B. SPAKE, Councillor.

Third District, Dr. P. S. Mitchell, Councillor, Iola, gave the following report:

The President and Council of Kansas Medical Society:

I beg leave to report that all is well in the Third District. The trend to combined county meetings is rapidly increasing.

I had occasion to meet with the Crawford County Society and, while they do not have their difficulty settled, the disturbing element seems to be dying out so we hope that it will solve itself.

P. S. MITCHELL, Councilor.

Fourth District, Dr. O. P. Davis, Councillor, Topeka, gave the following report: To the House of Delegates:

This district is composed of seven counties, viz., Shawnee, Wabaunsee, Geary, Osage, Morris, Lyon and Chase. There are, however, only two societies in the district, viz., Shawnee and Lyon. These two societies are really multi-county societies, taking the names of the counties where they meet or have their largest quota of members. In this way

the several counties co-operate in each case to constitute an effective society supplanting the several weak and ineffective ones which used to struggle for a bare existence. It will be observed that this plan has had the effect of breaking down district lines and of causing more or less overlapping of jurisdictions of councillors.

The Lyon County Society has a paid up membership of 38, or 3 more than in last report. These members are derived from the following counties as follows: Lyon, 26; Chase, 5; Greenwood, 4; Osage, 1; Coffey, 2; Morris County, which in last report was represented by 2 members, at this time has none. The society lost, since last report, 2 members by removal and one by death. There have been 11 regular meetings held, and no special meetings. The average attendance of members was 15.

The secretary, Dr. Phillip W. Morgan, writes me that the society is having the best year it has ever had, with better attendance and greater enthusiasm. He enclosed a printed program folder with subjects and assignments for the whole year, and it shows a very practical and interesting schedule of scientific and social activity. The society is also carrying on a program of weekly newspaper editorials in the daily paper. These are accredited to the society and are directed along lines of public health and a better mutual understanding between the profession and the people. This society may well be placed in the model rank, and is worthy of wide emulation.

Shawnee County Society, being the home society of the subscribing councillor, is an object of his great pride. Its composition is as follows, by counties: Shawnee, 114; Jefferson, 8; Wabaunsee, 7; Osage, 6; Jackson, 1. Total paid up membership 136. This is a gain of 1 over last report. In addition there is one emeritus member. The society lost 1 member (emeritus) by death, and 3 members were lost by removal, 7 new members have been received, 6 from Shawnee and 1 from Osage. There have been 9 regular meetings and 1 special. At the special meeting, the Shawnee Bar Association were guests. The society holds

no meetings during the 3 hot months. There was an average attendance per meeting of 57.9.

This society has made a feature of having a guest speaker of distinction at nearly every meeting. Also, one meeting a year is held at each of the several hospitals. These meetings are largely clinical and are much enjoyed by the members. The officers of this society are always active and alert—ready to go the limit for the benefit of the organization. The members are loyal and responsive to every movement looking to the best interests of the society and the public. The social spirit is cultivated by a supper preceding nearly every meeting. Occasionally, this supper, or dinner, takes on the nature of a banquet in compliment to one or more of our pioneer members. A particularly happy occasion was the banquet given recently in honor of Dr. C. A. McGuire, of Topeka, one of the society's best known and best beloved members.

Geary County, which belongs in this district, has no organization of its own but perhaps contributes to the membership of the societies of neighboring counties.

O. P. DAVIS, Councillor.

Fifth District, Dr. J. T. Axtell, Councillor, Newton, gave the following report:

The medical societies in this district are all functioning fairly well. The attendance is good and enough interest shown. The counties having no societies are attending the older ones. It is not considered advisable to form new societies. I have been able to visit most of them, Marion, Hutchinson, Great Bend, Pratt, St. John, and some others.

J. T. AXTELL, Councillor.

Sixth District, Dr. J. F. Gsell, Councillor, Wichita, gave the following report: To the House of Delegates:

I believe the profession is in very good shape in the Sixth District. Sedgwick County, the largest county in our district, has a membership of over 120. Meetings are held bi-monthly in Wichita, having an average attendance of over sixty.

The programs have been well arranged

and interesting, in addition to papers from our own members, a number of out of the city guests have contributed, to make this a good year. In Cowley County the society meets bi-monthly, alternating between Winfield and Arkansas City. They are having a good attendance and interesting meetings.

Butler and Greenwood counties meet together, meet monthly during the year and also report interesting meetings. Harper and Kingman counties have an organization in each county but as they have a small membership, only plan on several meetings each year. Kingman has held two meetings to which the public were invited and feel that some good was accomplished.

J. F. GSELL, Councillor.

Seventh District, Dr. C. C. Stillman, Councillor, Morganville, gave the following report:

I beg leave to make the following report as to general activities in the Seventh Councillor District for the past year:

Besides meetings in Clay County I have attended meetings in Mitchell and Republic counties, several in the latter county. The Clay County Medical Society has had regular meetings throughout the year, exceptionally well attended, and we have been addressed by a goodly number of distinguished guests, both from Kansas City, Missouri, Topeka and Wichita. The members of this society have taken part universally in general discussions of the subjects presented and I feel have derived great benefit.

I attended a meeting of the Mitchell County Medical Society the latter part of 1929, at which that society was reorganized. The attendance was excellent. Since that time they have opened a new \$200,000.00 hospital in the city of Beloit. It is one of the finest hospitals in the state. It will offer the medical profession of Mitchell and the surrounding counties an excellent opportunity for the betterment of their work.

I also attended the reorganization meeting of the Republic County Medical Society at Belleville in February; also, another one at Belleville along similar lines in March. There has been consid-

erable friction among the doctors in Republic County; in fact that would seem to have been their sole activity during the past year. They now have their society reorganized and with enthusiastic co-operation it should run along smoothly. Meetings among the physicians in Osborne, Cloud, Jewell, Rooks and Washington counties have, so far as I am able to learn, been either inconsequential or altogether absent during the past year.

C. C. STILLMAN, Councillor.

Eighth District, Dr. Alfred O'Donnell, Councillor, Ellsworth, gave the following report:

To the Council and House of Delegates:

I beg to submit the following report from the Eighth District comprised of the following counties: Saline, Ellsworth, Ottawa, Dickinson, Lincoln.

Ellsworth County Medical Society is a part of Central Kansas Medical Society—8 doctors, all of whom are members.

Saline County Medical Society—31 members. All eligible physicians are members. Meets monthly and is active.

Lincoln County Medical Society has 7 physicians, 4 are members of Lincoln County Medical Society, 2 belong to Central Kansas Medical Society and one non-eligible. Lincoln County has recently joined with the newly organized Solomon Valley Medical Society and meets quarterly.

Ottawa County Medical Society, 9 members, meets monthly and quarterly with the Solomon Valley Medical Society. All physicians of the county are members.

Dickinson County Medical Society, 17 members, meets quarterly; 3 eligible men non-members.

ALFRED O'DONNELL, Councillor.

Tenth District, Dr. I. B. Parker, Councillor, Hill City, gave the following report:

To the House of Delegates:

The Tenth District comprises the counties of Sheridan, Gove, Trego, Graham, Logan, Wallace, Russell and Ellis.

There is but one organized medical society in the district. The Central Kansas Medical Society. This society holds

its meetings quarterly, usually at Hays and Ellsworth and an occasional meeting at Russell. There is always a good attendance and a keen interest taken in the program. There is usually one or two men of standing from away on the program and generally one or two papers by local members. Free discussion of guests' papers as well as local papers is indulged in by all present. The guests' papers are usually enlivened by clinics from the local hospitals at Hays or Ellsworth. Some doctors in this district belong to other societies on account of the distance, being nearer to them. Most of the members attend the meetings regularly. There are a few doctors in the district who belong to no medical society, either on account of indifference or for reasons known to themselves only.

There has been some shifting of locations and a few new doctors have located in the district. A general feeling of good fellowship prevails. There are probably some local disagreements but none serious enough for any complaint to be filed with the Councillor.

There are enough doctors in the district to comfortably take care of all ordinary periods of sickness. During epidemics there may be times when the doctors are overworked and calls cannot be made promptly. None of the doctors are getting rich, but all are making a comfortable living and their conditions compare favorably if they are not better than those elsewhere.

At its last meeting, April 21, the Society appointed a committee to draft resolutions relative to unethical practice. The committee reported and their resolutions were unanimously adopted. A copy of the resolutions was given to the Councillor of the district, which copy is hereto attached and another copy sent to the Kansas City Star commending it for its outspoken position of ridding the public as well as the profession of all kinds of charlatanism and quackery.

IVAN B. PARKER, Councillor.

Eleventh District, Dr. C. H. Ewing, Councillor, Larned, gave the following report:

To the House of Delegates:

The Eleventh District is composed of

ten counties extending from Barton County on the east to the Colorado line on the west. We have in this area three societies, Barton, Rush-Ness and Pawnee. The first two are active, but the latter somewhat dormant and holds meetings at irregular intervals only.

It was my good fortune to meet with the Rush-Ness Society, February 18, at Ness City. They are a live bunch of young fellows, and active in society work; having a membership of one hundred per cent of the doctors eligible.

At the April meeting of the Barton County Medical Society at Great Bend, Drs. Bohan and Calkins of the University faculty were invited to address the society. Dr. Bohan gave a very interesting address on precordial pains and Dr. Calkins along obstetrical lines.

The society extended invitations to the physicians of the surrounding counties with the result that over fifty doctors were in attendance from the central and western parts of the state. All appreciated the courtesy of the society as well as the wonderful banquet served by St. Rose Hospital. With the exception of one county in the district practically all doctors eligible are members of some society, but several in the western part of the district belong to adjoining societies, because of the few doctors in each county they are unable to maintain county societies.

C. H. EWING, Councillor.

Twelfth District, Dr. Wm. F. Fee, Councillor. Meade, gave the following report:

To the House of Delegates:

As Councillor of the Twelfth District, I beg leave to make the following report:

I have visited the Meade-Seward County Society, and find them to be in first-class shape, everything moving along in good order, and the society is constantly on the lookout for new members, which, added to the growing society, will make it bigger and better.

I have also visited the Ford County Society at Dodge City and find it in a most flourishing condition, with all members enthusiastic, working for the good of humanity and the upbuilding of society.

I have not visited the Finney County Society, but I understand that they are also growing and have a live bunch of up-to-date medical men. The cults are forging ahead, practicing medicine as large as life. Allow me to cite one case, a farmer-blacksmith who had communed with nature, and, while listening to the melodious song of the mule, and the plaintive call of the crow, felt it in his bosom to expand into a "Natrio-Practer," and opened an office. He informed his friends that he was now ready for business, but inasmuch as he did not have a diploma and could not make any charge lawfully for his services, and his patients were slow in their gratuities, he decided to go to Wichita and take a Chiro course, which he did, completing it in about six weeks at an enormous expense of fifty dollars and find yourself. He returned with a stethoscope sticking prominently out of his pocket, and with a lamp with which to administer treatment—a full fledged Chiro.

Others there are who are following in the footsteps of quacks. The country is full of D.C. D.O., Naturopaths, etc., but all practicing regular medicine, without having any right whatever to do so, while the regular practitioners who have M. D. attached to their names sit supinely by waiting for a decision from the attorney general to define the rights of certain of the cults, what they may or may not do as regards the writing of prescriptions and the giving of all kinds of medicines indiscriminately, but with the slogan "Watch us Horse Apples Float."

WM. F. FEE, Councillor.

REPORT OF MEDICAL DEFENSE BOARD

To the House of Delegates:

The Medical Defense Board herewith submits the report of its work during the past year. The report of its attorney is also submitted, showing a list of all cases in hand, with their present legal status. This latter report will give such detailed information concerning the cases actually in litigation that it will be quite unnecessary to repeat the information in this part of the report.

It will be observed that only seventeen

cases are covered in Judge Hamilton's report, and that of these five have been disposed of, leaving but twelve active cases. Thus we have on hand the smallest number of active cases for several years. This should not be taken to mean that we are approaching the time when we may safely abandon our defense system. It rather shows that the original purpose for its existence is being justified, namely, the prevention of these cases by being ready to meet them with a prompt and vigorous defense. While the actual lawsuits have been fewer, there have been many incipient or prospective cases. This board is constantly receiving letters from our members who have been threatened with suits, but these suits have quite commonly proved abortive when the course we advised was followed of ignoring all threats, refusing all compromise and letting our attorney do the talking if any talking has to be done. Thus a great deal of correspondence has to be carried on by the board in answering inquiries and inculcating a proper attitude on the part of the members who are being assailed. But we feel that it is work in a good cause and we are proud of the results that have been obtained.

We had some correspondence, a while back, with Mr. Byron H. Somers, president of the Medical Protective Co., with whose organization we have co-operated very harmoniously in the defense of a number of our members. Mr. Somers took occasion to say, in one of his letters, that there has never been any question in his mind that the defense departments of various medical societies have rendered excellent service, not only in a general way but in many concrete cases. "For instance," says he, "if it no more than raises the esprit de corps among the profession, it would seem to be well worth the effort." Thus a great company, which used to be inclined to disparage our mission before it came to understand it, now readily co-operates with us and readily appreciates our co-operation with it in cases where we are mutually interested.

We are glad to report that our expense has been less this year than for several

years past. We shall not show here an itemized list of expenditures. It has seemed unnecessary to duplicate that part of the report of the treasurer which will show all such items, inasmuch as this board neither receives nor disburses any money. But a reference to the treasurer's report will show that this department has cost, as shown by vouchers from Nos. 121 to 136, inclusive, \$1,549.54. This is \$747.89 less than the expenses of last year. We are proud of this saving, but prouder of the fact that we had less litigation, and that we have not lost in a single one of the cases we have had this year.

The board desires again to express its appreciation of the services of our attorney, Judge John Hamilton. He has been very prompt, efficient and successful, and has won the confidence and esteem of our members wherever his work in their behalf has called him.

A table of our expenditures during the past sixteen years is subjoined, which may be found of interest.

DEFENSE BOARD EXPENDITURES—16 YEARS	
1915	\$ 1,254.95
1916	1,189.27
1917	777.45
1918	803.53
1919	759.41
1920	1,245.51
1921	1,458.35
1922	1,226.08
1923	1,310.96
1924	1,479.76
1925	1,970.05
1926	2,008.13
1927	1,981.03
1928	1,949.02
1929	2,297.43
1930	1,549.54

Total, 16 years	\$23,276.52
Average, per year	1,454.73

Respectfully submitted,

O. P. DAVIS, Chairman.

W. F. FEE.

Dr. O. P. Davis handed in the following report of J. D. M. Hamilton, Attorney Medical Defense Board, for publication in the minutes:

April 22, 1930.

My dear Doctor Davis:

I am herewith enclosing for the consideration of your committee and the society as a whole a summary of cases which have been referred to me as attorney for the Medical Defense Board during the period from April 1, 1929, to

April 1, 1930.

You will note that the report covers but seventeen cases and that of these five have been disposed of, leaving but twelve active cases. This is by far the smallest number of active cases which have been in my files at any time since I was employed by the board.

As has been true in the past, practically 90 per cent of the cases arise from the treatment of bone injuries. It has been quite noticeable in the past that where cases have come in groups in certain localities with the co-operation of the insurance carriers in refusing to settle these cases and contesting them vigorously we have been able to discourage the filing of further cases in these particular communities where there was a noticeable tendency to file malpractice actions.

I am also pleased to call your attention to the fact that during the last year we have not lost any case in which the board was interested.

If there is any further information which you desire I shall be glad to furnish it upon your request through the board.

Trusting that the report as submitted is satisfactory, I am

Yours very truly,

J. D. M. HAMILTON.

SUMMARY OF CASES MEDICAL DEFENSE

BOARD, APRIL 1, 1929, TO APRIL 1, 1930

1. Strode v. Dr. W. T. McKay. Improper treatment of osteomyelitis of tibia. Filed 2/11/26. First trial—hung jury. Second trial—verdict for defendant set aside for misconduct of juror. Third trial—hung jury. Pending for retrial at this time.

2. McMillan v. Dr. Frank Foncannon. Failure to properly diagnose and treat fractured radius. Filed 10/10/26. Original judgment for defendant overruled by Supreme Court. Upon second trial—verdict and judgment for defendant.

3. Smith v. Dr. R. C. Harner. Failure to properly diagnose and treat Colles' fracture. Filed 5/31/27. Pending upon defendant's demurrer.

4. Hughes v. Dr. F. W. Tretbar. Negligent failure to attend patient. Filed

6/26/28. Defendant's demurrer to plaintiff's evidence sustained. Pending on motion for new trial.

5. Dr. A. R. Nash v. Mangan. Cross-petition for negligent failure to properly diagnose infection of jaw bone. Filed 6/30/28. At issue.

6. Dyer v. Drs. L. D. Johnson and A. M. Garton. Negligence in failing to properly reduce fracture of femur. Filed 3/4/29. Dismissed by plaintiff.

7. Ruggaber v. Dr. N. C. Speer. Failure to properly reduce fracture of forearm. Filed 4/12/29. Settled by insurance company.

8. Smith v. Dr. Mayo Hedge. Failure to properly treat during pregnancy. Filed 6/28/29. At issue.

9. Mickens v. Drs. J. B. Davis and F. A. Trump. Action for libel growing out of medical report made to court. Filed 7/10/29. Judgment for defendants upon demurrer. Pending in Supreme Court on plaintiff's appeal.

10. Brooks v. Drs. E. H. Clayton and E. F. Day. Negligence in operating for kidney stones. Filed 7/13/29. At issue.

11. Sedlock v. Dr. J. H. Buckles. Failure to use care resulting in blood infection. Filed 7/29/29. At issue.

12. Porterfield v. Drs. C. H. Fortner, F. W. Shelton, W. J. Aldrich. Damages on account of unauthorized autopsy. Filed 8/21/29. Settled by insurance company.

13. Helton v. Dr. H. C. Markham. Failure to properly treat rabies. Filed 10/6/29. Pending on preliminary motions.

14. Kaler v. Dr. C. B. Van Horn. Negligent use of x-ray resulting in third degree burn. Filed 1/17/30. Pending on preliminary motions.

15. Mick v. Drs. L. W. Fowler and J. D. Musick. Failure to diagnose and properly treat fractures of tibia and fibula. Filed 2/7/30. Pending on Preliminary motions.

16. Cooks v. Dr. J. C. Bunten. Failure to properly diagnose and treat fracture of L. arm. Filed 2/21/30. Pending on preliminary motions.

17. Keatley v. Dr. G. L. Kerley. Negligence in treating fractures of tibia and fibula. Filed 1/6/30. At issue.

Reports accepted and filed on motion regularly seconded and carried.

REPORT OF COMMITTEE ON PUBLIC HEALTH
AND EDUCATION

Mr. President, Members of the House of Delegates:

The following report is submitted by your Committee on Public Health and Education:

Public Health Education

In an endeavor to report on the activities of county medical societies in public health education, requests were made of the various society secretaries to supply certain data relating to the holding of meetings during the past year.

The following societies sponsored public meetings during the past year:

Barton, Bourbon, Cherokee, Clay, Doniphan, Franklin, Kingman, Labette, Miami, Montgomery, Stafford, Wilson, Washington. Total 13.

These thirteen societies sponsored twenty-three meetings. The attendance at two meetings were not reported, while the attendance for the twenty-one meetings was 4,310.

Twenty-nine society secretaries reporting, stated the society did not sponsor any public meetings.

Replies were not received from the following societies:

Allen, Anderson, Brown, Butler, Central-Kansas, Cloud, Cowley, Crawford, Elk, Finney, Jewell, Johnson, Leavenworth, Lincoln, Marion, Mitchell, Republic, Sedgwick. Total 18.

Your committee believes one of the most valuable methods of educating the general public concerning the purposes and achievements of scientific medicine, is through public meetings, and believes every society should sponsor at least one public meeting during the year.

In addition to the activities of certain county medical societies in public health education, eleven counties in the state are operating full time county health departments and one of their most important duties is public health education. The counties are as follows: Brown, Butler, Cherokee, Dickinson, Geary, Greenwood, Lyon, Marion, Ottawa, Sedgwick and Shawnee.

These counties report the following: Lectures, 470; total attendance, 19,572. Bulletins distributed, 82,696; newspaper articles, 1,271.

In addition to the above named counties operating full-time health departments, the cities of Kansas City, Wichita and Topeka operate full-time departments. Data on public health education from the three cities was not available at the time this report was written.

HARLE G. BROWN, Chairman.

Report accepted and filed on motion regularly seconded and carried.

REPORT OF COMMITTEE ON PUBLIC POLICY
AND LEGISLATION

To the House of Delegates:

Your Committee on Public Policy and Legislation report as follows:

Since there has been no regular session of the legislature in the past year, we have no report to make of the work done, simply some suggestions for the future.

The thing which our profession and a good many of the public generally have in mind today is a question of medical ethics and public relations. As physicians, the first thing we think of is the personnel and number relatively of regular men on the Board of Examination and Registration. When this board was organized and provided for by the state, we had societies and regular meetings of eclectic and homeopathic doctors who were jealous of a fair share of membership on the board and the law provided that no school of medicine, so called, should have a majority. During the past years many of these men have joined the regular state medical society and the few remaining have lost interest in their organizations till it is difficult for the governor to find leading and qualified men to represent these schools on the board. We recommend that a conference be called with whoever may remain to represent these schools and find their sentiment as to joining our society or making their own more effective.

Another thing that has been suggested is an ethical standard to be required of applicants for license to practice medicine; something on the order of the

Hippocratic oath, mentioning specific things, violations of which would be grounds for cancellation of the right to carry on as healers of human maladies. Members of the legal profession are required to take an oath mentioning things they will not do on penalty of disbarment, should they violate the pledge. In so far as the Basic Science law is concerned we feel that much educational work outside the legislature must be done before it is worth while to appeal to members to support our bill. Suggestions as to the wisdom of attempted legislation along any of these lines will be gratefully received during the coming months. We appreciate the need of interpretation of the law regulating the practice of osteopathy and chiropractic.

W. S. LINDSAY, Chairman.

Report accepted and filed on motion regularly seconded and carried.

REPORT OF COMMITTEE ON SCHOOL OF MEDICINE

To the Council and House of Delegates:
The Committee on School of Medicine begs to submit the following report:

The Medical School has had an unusually busy year. Last summer 300 applications for admission into the first year were received, but there are only facilities for 65 students. Seven students from outside the state were admitted, practically all but one being from Kansas City, Missouri. All qualified bona fide Kansas applicants were accepted. During the coming summer conditions will be very much worse. It is estimated that there will be 125 applications from Kansas alone for the 65 places which are available. Facilities at Lawrence are entirely inadequate to meet the present demand. Last fall new boilers, stokers and a smoke stack were added to the power plant, entirely changing the appearance of this division of the plant. About the same time a new ward building was opened and about 60 additional beds were added so that the capacity of the hospital is now about 180 beds. Since the opening of this ward they have averaged 140 patients daily. With this additional clinical material the school can take care of a maximum of 60 students

in the third and fourth years. Considerable addition to the physical equipment will be necessary if classes of 70 to 80 are to be accommodated. Even with the present facilities it is difficult to carry on as should be done. Adequate classroom facilities are not available. For instance, when the post-graduate courses were held here this winter there was considerable difficulty in finding a room sufficiently large to hold the courses in, in addition to providing a place for the regular Medical School classes.

It is a general understanding in the Association of American Medical Colleges that the teaching hospital of a medical school should have at least three available beds for each student in the senior class. They do not accept a bed in an affiliated institution, such as St. Margaret's Hospital for instance. In fact, there is a tendency to require more than this number of beds. The ratio should be preferably four to five beds to each student. Wisconsin has a hospital of over 400 beds and limits its third and fourth year classes to 50 each. With the 180 beds now available we could not take care of more than 60 students in the third and fourth years. The most crowded condition is in the preclinical sciences at Lawrence, where facilities are available for only 65 students. If we have classes at the clinical end of 60 we should have room for at least 80 to 90 in the first two years, for there are a certain number who drop out between the first and third years.

The Medical School has a class "A" rating among the medical schools of the country, there being 79 that are rated as this class. It may be of interest to know that this school is also one of the few medical schools that is recognized by the British government as having a satisfactory medical course. Of the 79 class "A" medical schools in the country England recognizes about 40 and ours is one of the forty. The school has also been inspected recently by the Alpha Omega Alpha honorary fraternity. This is the national honorary medical society, and the school has been recommended for admission into this group. If our admission is approved, it would put us in the

“A plus” group of medical schools.

Almost all of the students in the Medical School are residents of Kansas. Perhaps ten per cent of the students come from outside of the state and 85 per cent of these are from Kansas City, Missouri, which is really in the metropolitan district of the clinical end of the Medical School. One problem which this school, as well as other schools, is facing is the tendency for students from the eastern states to migrate to Kansas just long enough to get through the Medical School and then return to the East. They establish their residence by attending one or two years in the University, taking pre-medical work in order to get into the Medical School, because they are not able to enter the eastern schools. This is due to the unusually large number of students applying for admission and in part to the fact that an unusually large number of these students are members of the Hebrew race.

One of the additional milestones of the Medical School was the establishment of the Porter Lectureship. This lectureship is supported by money that was given to the Medical School by Dr. J. L. Porter of Paola, Kansas, in 1918, and consists of three lectures given annually by some outstanding physician. Dr. Lewellys F. Barker gave the first course of lectures under this lectureship on April 1 and 2, to which the profession generally was invited. An unusually large crowd was present. In fact, there was not a meeting hall large enough to take care of the crowd adequately.

The Medical School has in the past offered short postgraduate courses to physicians of the state, but has been somewhat discouraged in this attempt for even though very outstanding lecturers were obtained, relatively few physicians took advantage of this service. Short courses in internal medicine, surgery, nose and throat, eye, pediatrics, obstetrics and gynecology were given with only 10 to 15 men enrolled in each course. Next year the Medical School is planning on offering a three day course of therapeutic clinics to the general profession without any fee being charged, hoping in this way to serve the needs of the gen-

eral practitioner. In collaboration with the Extension Division of the University the Medical School is offering some circuit courses, one of these being given this summer in the southeastern portion of the state.

Another service that the school could and would be willing to render the practitioners of the state would be to serve as a bureau of information so that any physician could consult the Medical School as to the more recent developments along a particular line or newer technique and preparation of intravenous solutions, or any other information that is wanted. This information could be obtained by simply writing to the Dean.

Another change and addition in the Medical School was the transference of the library from the old plant to the second floor of the main building of the new plant, giving the library for the first time a really genuine reading room and suitable stack rooms. The library reading room large enough to take care of a large audience such as was present at the time of the Porter lectures.

At the present time there are enrolled in the Medical School 71 Freshmen, (although there is only facilities for 65), 62 Sophomores, 54 Juniors, and 49 Seniors. The limit of the classes at Kansas City is 60 students. The fact that some of the classes have to be held at the old plant a mile away has proved a great handicap.

The following are the outstanding needs of this institution, and it is to be hoped the medical profession of the state will use their influence to acquire them for the Medical School.

I. *The addition of service building and connecting corridor.* This will cost \$200,000 and will provide a fire-proof ward in place of the fire trap in which the colored patients are at present housed. Anyone who has seen this colored ward would have no question about the urgency of this request. In addition, this unit will give us laboratory and classrooms so that the old plant can be moved up to the new site. It will give us large enough classrooms to handle larger classes. It will also provide adequate kitchen and dining room facilities which

are very much cramped at present. It will provide a place to store food materials and house supplies over a longer period, and at the same time enable us to provide adequate cold storage facilities. Such a unit will also provide quarters for the hospital help.

II. *Additional improvements to the power plant, amounting to \$20,000.* This would include a first-class boiler and stokers so that if the present unit has to be shut down there would be another one to take care of the heating of the institution, even in the coldest weather. Our present arrangement is not adequate for such emergencies.

III. *\$20,000 to completely finish the present nurses' home,* two floors of which at the present time are incomplete. This will enlarge the capacity of the hospital to approximately from 30 to 40 beds, as the nurses can be moved from their present lodgings on one floor of the ward building to the nurses' home.

IV. *Increased maintenance for the hospital and medical school.* The state should also provide increased maintenance in order to enable the institution to take care of a certain number of free patients and also to allow for the addition of a department of public health in the Medical School, and provide additional funds for the increase of salaries to certain outstanding and new men in the institution. At the present salary rate Kansas is in danger of losing its best men, two valuable men being lost in the past year because we could not cope with the salaries which were offered to them.

V. *Additional physical facilities for the department at Lawrence.* There should be a building at the Lawrence end which will house all the medical sciences. Such a building with equipment would probably cost about \$300,000. This will remove the criticism of the medical branches being held in the various basements of the main University campus, and should enable us to take classes of 90 to 100, instead of 65 as at present. The Medical School is always anxious to receive suggestions for improving its work and its service to the profession of the state.

ALFRED O'DONNELL, Chairman.

L. F. BARNEY.

H. J. DUVAL.

Report accepted and filed on motion by Dr. Geo. M. Gray, regularly seconded and carried.

REPORT OF COMMITTEE ON HOSPITAL SURVEY
To the House of Delegates:

Your Committee on Hospitals begs to make the following report:

For the past year your committee has co-operated with the Council on Medical Education and Hospitals of the American Medical Association in an effort to standardize hospitals of the state.

The American Medical Association through its committee have for the past several years been doing a fine work in registering and approving hospitals of the United States. This census has been the means of improving the service in the different hospitals very materially. The American Medical Association Journal of March 29, 1930, contains a very exhaustive report covering the past year, to which we refer any member desiring fuller information.

In the state of Kansas we have 137 hospitals that have been registered by the American Medical Association. These hospitals have a capacity of 11,870 beds and 660 bassinets. Of the unregistered hospitals in the state of Kansas, there are only 16 having a capacity of 418 beds and 37 bassinets.

That you may have a better understanding of the requirements for registering a hospital under the census of the American Medical Association, the committee desires to make a brief statement. First, the inclusion of any hospital by the American Medical Association is an indication that evidence concerning irregular or unsafe practices in that hospital has not been available to the Council on Medical Education and Hospitals. Investigation is carried out in each case before admitting a hospital to the register. During recent years the census of hospitals has become an annual affair. The hospital on making application for registration supplied information concerning capacity, equipment with list of staff. Each member of the staff

is then looked up in biographic files of the American Medical Association. If the hospital is new, or there is any reason for further investigation, same is received from secretaries or members of county medical society of the district, secretary of the state society, councillor of the district and your committee on hospitals.

For the past twelve years, the American College of Surgeons has been doing work under what is known as hospital standardization.

The college undertook this work of improving the hospitals from the standpoint of the patient. At this time, we have in the state of Kansas, 25 hospitals fully approved and 7 conditionally approved. Both the College and the American Medical Association now have men in the field, whose duty it is to visit the different hospitals and check up as to conditions in the different hospitals. At the present, the requirements for registration and standardization by each, is not materially different. The check up in the hospital by the American Medical Association covers hospitals approved for interns. They are naturally the larger hospitals and are located in places requiring same for teaching purposes. In Kansas, the hospitals approved by the American Medical Association desirable for interns consists of only 5 hospitals. They are located in Kansas City, Kansas, and Wichita. The Osawatomie State Hospital at Osawatomie is the only Kansas hospital approved for residencies in specialties.

Hospitals registered through the American Medical Association include all hospitals of the state. The work that has been done by the American College of Surgeons in the matter of standardization of hospitals, has, so far, only considered hospitals of 50 beds or more.

In conclusion, your committee desires to advise you that in their opinion the hospitals of the state are today in a very satisfactory condition considered from the standpoint of the patient, equipment of the hospital and character of the staff.

GEO. M. GRAY, M.D., Chairman.

D. W. BASHAM, M.D.

W. M. MILLS, M.D.

Report accepted and filed on motion by Dr. Alfred O'Donnell, regularly seconded and carried.

REPORT OF COMMITTEE ON MEDICAL HISTORY House of Delegates:

A history of the Kansas Medical Society is practically a history of the practice of medicine in Kansas. Prior to the organization of this society and its charter by the territorial legislature in 1859 there were a few medical pioneers in the principal trading posts in the state. It would add much of interest to our history if we could secure some personal memoirs from these early day practitioners. Many of them became active members of the society and played prominent parts in its affairs. Many of the founders of the society as well as its early officers had much to do with the events that marked the early history of Kansas. For specific data along this line we refer you to the presidential address of Dr. Walker in 1916 and to a report of this committee published in the Journal in 1925.

In rendering a report of its progress at this time the committee would call attention to a few of the facts observed: Sixty-seven men have served as president of the society, and in all its history but one man was ever elected to succeed himself as president, and but two have been elected to fill vacancies caused by the death of presidents. Of those who have been president twenty-one are still living. Twelve presidents have been elected from Topeka, eight from Kansas City, six from Wichita, six from Leavenworth, four from Lawrence, three from Fort Scott, two each from Concordia, Beloit, Osawatomie and Peabody; one each from Atchison, Osage City, Pittsburg, Horton, Newton, Salina, Columbus, Oswego, Hutchinson, Norton, Mt. Pleasant, Junction City, Manhattan, Paola, Olathe, Winfield, Ottawa, Emporia, Ellsworth, Clay Center and Larned. There have been sixty-seven meetings of the society. Twenty-one of these were held at Topeka, eight at Kansas City, seven at Wichita, six at Lawrence, five at Leavenworth, four at Atchison, three at Hutchinson, three at Salina, two

at Fort Scott, two at Emporia, one each at McPherson, Winfield, Pittsburg, Concordia, Iola and Ottawa.

At this time we are able to present to you an album which contains photographs and short biographies of all but two of those who have been president of the society.

John Parsons was elected president in 1868 at the annual meeting held in Leavenworth. He then practiced at Mt. Pleasant, a village, now extinct, located near Atchison. He had been but a short time in the state and remained but a short time. Only one or two people could be found in the neighborhood of the old town site that had any recollection of him. He was supposed to have come from New York and according to the only source of information found the reputation he established at Mt. Pleasant was somewhat unsavory and his departure for parts unknown is said to have occurred between days.

Dr. H. K. Kennedy was elected president in 1873 at the annual meeting in Fort Scott. He had been practicing for some years at Ozawkie but had recently moved to Topeka. At the annual meeting at which he was elected he reported an epidemic of small pox that occurred in Shawnee County during which he acted as health officer. His report is very interesting to read. We have been unable to find anyone in Topeka that remembers him. A visit to Ozawkie gave us some clues but so far nothing very important has been learned. We still hope to trace his record and secure a photograph.

In 1884 the proceedings of the society from 1859 to 1877, inclusive, were collected and published in book form. In 1888 the proceedings from 1878 to 1888, inclusive, were compiled and published in book form. In 1889 a contract was made with the Kansas Medical Journal for the publication of the proceedings, but in 1894 the society reverted to the old plan of publication which continued until 1901, when the Journal of the Kansas Medical Society was started. Since this time the proceedings have been pub-

lished in the society's own Journal.

In 1925 the committee prepared from the published reports a condensed history of the activities of the society from 1859 to 1900 and this was published serially in the Journal during 1925 and 1926.

This we hope to be able to complete during the next year. It was with some difficulty that we secured a complete file of the reports. The chairman of the committee had in his own library a complete file of the Kansas Medical Journal and the various books of annual proceedings. It was after considerable effort that we finally collected a complete file of the Journal of the Kansas Medical Society from 1901 to 1913.

At the meeting of the House of Delegates in Salina in 1929 the committee was instructed to have two typewritten copies of the official proceedings made for the years 1889, 1890, 1891, 1892 and 1893 and for 1901 to 1913 inclusive and to place one of the copies in the custody of the Kansas Historical Society. This work has been completed and the album together with the proceedings is now ready to deliver. The total expense for completing this work amounted to \$176.76, itemized statement of which is attached hereto. This statement has been approved and the amount paid by the society.

It has seemed to us, now that practically all of the photographs have been secured, that it would be a commendable thing to reproduce all these in the Journal, with short biographies, one each month, at least up to 1917, since which time a picture of the newly elected president has always appeared in the June number of the Journal of the corresponding year. If the electros are preserved it may be possible within a few years to publish a complete album at comparatively small expense.

Expense Account

Three grip files	\$ 4.35
Stationery and supplies	5.50
Photograph copies	52.50
One Photograph	4.00
Express charges on photographs .....	.41
Work in completing album of ex-presidents and typing proceedings for permanent record as ordered by House of Delegates—	

Session May, 1929 110.00
 \$176.76

- W. E. McVEY, M.D., Chairman.
- W. S. LINDSAY, M.D.
- O. D. WALKER, M.D.

THE BUREAU OF PUBLIC RELATIONS

To the House of Delegates :

At the last annual meeting of the House of Delegates a large majority of the members expressed themselves as in favor of maintaining the Bureau of Public Relations. However, at the next meeting the opinion seemed to prevail that the function of the bureau was to conduct a legislative campaign and that inasmuch as there would be no session of the legislature for another year there was little if anything for the bureau to do. On this assumption the appropriation for the bureau was reduced to \$100 per month, which amount was entirely inadequate to maintain the bureau office. It was therefore necessary to combine the office forces of the bureau and the Journal and it was hoped that we would in this way be able to save enough money for some of the publicity campaigns we had planned. However, it was soon learned that the most efficient and best intentioned people have limited capacities for work.

The undersigned is nominally the executive secretary of the bureau, but Miss Ruth Carlson is the very efficient operative who has done all the work. The House of Delegates instructed the Committee on History to make a copy of the album and to make typed copies of several years of the official proceedings. This work was done by Miss Carlson and the bureau was paid for the time consumed in this work. In trying to develop some of the plans we had in mind we found our card index directory which had been installed ten years ago had gotten very much behind while we were engaged with the legislative campaign and other things. In addition to the other work a revision of this directory was undertaken and I am happy to report that it is now in rather satisfactory shape and we hope to be able to keep it so. It seemed a feasible plan to publish a directory of the physicians in the state following the system used by tele-

phone directories, selling sufficient advertising space to pay for publication and distributing free copies to the members of the society. It seemed that in this way something might be added to the funds of the bureau. The matter was presented to the council and permission was granted provided the undersigned would assume all the financial risk and turn over all of the profits, if any should accrue, to the society. Estimates on the publication were secured and plans made for undertaking the work when we began to realize that it would require still some months to make the necessary corrections in our card index directory, and if any profit did accrue it would be realized too late for any use the bureau could make of it this year. We were also beginning to realize that no additional work could be undertaken in our office without employing more help and that was out of the question.

While getting data for the directory our attention was frequently called to instances where someone was presumable practicing without a license to do so. It seemed if there was so much neglect of the provisions of the medical practice act as there seemed to be some effort should be made to enforce the law. We mailed to each secretary of a county society a questionnaire in which he was asked to give us answers to the following:

Do you know of any licensed practitioners in your county who have failed to have their licenses recorded with the county clerk?

How many?

Are there any persons practicing medicine in your county who are not licensed to do so?

How many?

Are there any chiropractors in your county who administer or prescribe drugs or do major surgery?

How many?

Do you know of any nurses who are practicing medicine in your county?

How many?

From 61 secretaries to whom this questionnaire was sent we have received 39 replies. From these replies we have assembled the following data:

There are in the counties represented in these replies 27 licensed practitioners who have not recorded their licenses with the county clerk as the law requires. There are twenty persons practicing medicine who are not licensed to do so. There are twenty-two chiropractors prescribing drugs or practicing major surgery in violation of the law. There are eight nurses who are practicing medicine without license to do so. Two who treat patients with physio-therapy without a doctor's diagnosis or advice, one who treats cancers with salve, one school nurse who writes prescriptions and does vaccinations. Several who give anesthetics, which may or may not be in violation of law.

Since the larger counties in the state are not included with those replying, it is not unfair to assume that there are at least three times as many violations of our medical laws as have been reported.

After several years effort to develop a really serviceable medium through which the society's purposes might be carried out to a larger extent, my conception of an efficient bureau of this kind is one that is prepared and competent to co-ordinate the functions of the various standing committees; not to take the place of these committees but to work under their guidance, to carry out the plans developed by these committees in the line of duties delegated to them. The records and the files of data that have already accumulated in the combined office of the Journal and the bureau will be of inestimable value to any work that may be outlined for any of these standing committees.

I would call your attention to the following sentence in the section of the by-laws providing for the Committee on Public Policy and Legislation: "Under the direction of the House of Delegates it shall represent the society in securing and enforcing legislation in the interests of public health and scientific medicine." It will be evident to anyone who cares to investigate the facts that what we need at this time is to see that the laws now on our statute books are enforced. We do not yet know but if or when the present laws are interpreted and enforced we

will not need further legislation. Up to this time it has never been decided if an osteopath is legally entitled to administer drugs. It has been so presumed because an exemption clause was introduced into the medical practice act which apparently exempts him from its provision. However, it was never the intention of the law creating the osteopathic board of examiners to give them permission to practice medicine. If practicing osteopathy is the same as practicing medicine then a law providing for different requirements for practicing osteopathy and practicing medicine ought to be in the nature of class legislation and unconstitutional. The law prohibits chiropractors administering drugs, but we have information that they do so. The methods adopted by some of them for evading the provisions of the law will not stand a test in court. But the longer they are permitted to evade the law the less likely are they to be controlled. It is still a question as to what extent nurses may be exempt in the application of the law without removing all restrictions. A nurse as a surgical assistant and as an anesthetist may be efficient and her services as safely rendered as those of a graduate physician, but do such services come within the meaning of the practice of medicine? Are they exempt under the gratuitous service clause?

Is a school nurse within the legal rights of her calling when she makes diagnoses, writes prescriptions for those who are ill and does vaccinations? Do the laws require that physicians, osteopaths and chiropractors shall have their licenses recorded in each county in which they take up their residence? This leads me to suggest that our laws requiring such registration are very imperfect and inadequate. Complete and reliable registration of all those who practice the healing art would be of inestimable value to the state department of health and the laws should be so changed as to require that every person before beginning to practice the healing art in any form in this state shall first send his name and address, together with the name of the school from which he graduated, his

so-called school of practice, the number of his license to practice and the date of its issuance, to the Secretary of the State Board of Health and receive a certificate of its registration; and upon removal from said location to another location in this state shall before beginning to practice notify the Secretary of the State Board of Health of such change of location. It is quite important for the purposes of the best public health service and for the satisfactory enforcement of our medical laws that there shall be available at some central location a complete record of every person practicing the healing art in this state.

I should like to call your attention again to what I regard as one of the most important functions of the bureau, yet one the members of the society are likely to hear and know least about, its publicity work, which has been continuous and uninterrupted. Each week there is mailed from our office an article on some medical subject to seventy newspapers in sixty different counties in the state. Up to this date 176 of these articles have been prepared and mailed. A great deal of additional publicity work could be advantageously carried on if funds and time permitted. Although much has been accomplished by the bureau in spite of the meagre support given it there is more that could be done.

We are approaching another election and another legislative campaign and in the light of recent experiences there is serious work to be done. It is time now to decide if another effort shall be made to secure the passage of the basic science bill or if our efforts shall be directed toward securing some amendments to the laws now on our statute books. It is also time to consider what, if any, effort shall be made to enforce the laws we have and toward securing from the courts an interpretation of the laws governing the practice of the healing art in this state.

It has been almost ten years since our directory of Kansas physicians was published. With our card index directory now up to date a new edition would be much less of an undertaking than was the first one. I believe it is possible to

publish a book that could be delivered free of cost to the members of the society but it is an undertaking that will naturally require the expenditure of considerable time and effort.

Although our membership percentage (67.0) compares very favorably with other states, it is lower than it should be and an active membership campaign ought to be inaugurated and prosecuted with energy and persistence. Finally, I wish to say that I have studied the various plans adopted by other state societies for carrying on the routine work of the organization together with that which their social and political obligations require of them, and I find that none of these has a plan at once so efficient and so economical as that outlined by Dr. Carmichael in his presidential address upon which our Bureau of Public Relations has been developed.

W. E. McVey, M.D., Executive Sec'y.

FINANCIAL STATEMENT OF BUREAU OF PUBLIC RELATIONS, MAY 1, 1929, TO MAY 1, 1930

Receipts	
Balance on hand May 1, 1929	\$ 152.64
Received May 1, 1929, to May 1, 1930	1,310.00
	\$1,462.64
Expenditures	
Salary and expenses	\$1,149.33
Postage	80.24
Stationery	22.25
	\$1,251.82

Balance on hand May 1, 1930

Reports accepted and filed on motion by Dr. C. W. Reynolds, regularly seconded and carried.

(Concluded in July)

R

SOCIETIES

ALLEN COUNTY SOCIETY

Tuberculosis Clinic

A tuberculosis free clinic was held at Iola, May 28, under the auspices of the Allen County Medical Society. Dr. Samuel H. Snyder conducted the clinic as representative of the State Tuberculosis Association. Thirty-eight people were examined. Dr. Snyder was a guest of the Iola physicians at a dinner at the Portland Hotel. There were present Dr. Snyder, Drs. Nevitt of Moran; Longenecker of Elsmore; Drs. Mitchell, Stephens, Lambeth, Reid, Lenski, Shad-

wick, Christian and Garlinghouse of Iola; and Miss Bolt, R. N., of the State Tuberculosis Association.

P. S. MITCHELL, Secretary.

BROWN COUNTY SOCIETY

At the meeting of the Brown County Society on May 26 the members of the Richardson County (Nebraska) Society were guests. The program consisted of a paper by Dr. William Shepherd of Rulo, Nebraska, on "The Injection Treatment of Hemorrhoids," and a paper by Dr. H. R. Miner of Falls City, Nebraska, on "The Treatment of Raynaud's Disease by Intravenous Injections of Foreign Proteins."

Several months ago, members of the Brown County Society were guests of the Richardson County Society and supplied the program.

It is the usual custom of the Brown County Society to meet in the offices of doctors, the ladies of the auxiliary meet at the doctor's home and after the medical program all go to this home for a social evening. In the summer the meetings are held at some country camp ground with basket lunches provided. The meetings are held at small towns as well as large ones. Last fall the members were entertained by Dr. and Mrs. Spencer in St. Joseph, Mo.

E. K. LAWRENCE, Secretary.

FRANKLIN COUNTY SOCIETY

"What is the dose of diphtheria antitoxin?"

"The dose of diphtheria antitoxin is twenty thousand units."

Answer by the Franklin County Medical Society.

The Franklin County Medical Society held its regular monthly meeting, for May, at the Colonial Tea Room, Lawrence, Kansas, Wednesday evening. Dinner at 7 p. m. Program followed.

This was a joint session with the Douglas County Society. Guests present were Drs. Kinnaman of the State Board of Health and P. W. Covington, Sale Lake City, western representative, Rockefeller Foundation.

These men were in the city of Lawrence for the purpose of addressing a

public meeting looking to the establishment of a full time health unit for Douglas County, and were invited to partake of food and discuss with the joint societies the proposition for both counties.

Regular program of the evening opened with a paper, "History Knowledge and Experience in Diphtheria," by Dr. W. O. Nelson of the Douglas group. This was followed by a paper, "Virulent Epidemic in Franklin County," Dr. Josaphyne E. Davis of Ottawa.

The two papers brought out much interesting discussion and side lights on the timely subject of Diphtheria. The most outstanding of which was the establishment of the dose of antitoxin as indicated—twenty thousand units is the dose. Should be the initial, and, probably, the only dose needed.

GEO. W. DAVIS, Secretary.

CLAY COUNTY SOCIETY

The regular monthly meeting of the Clay County Medical Society was held at the Bartell Hotel in Junction City, on the evening of the 14th of May.

The members of the society were guests at a dinner at the hotel which was provided by Dr. W. A. Carr and Dr. W. A. Smiley of Junction City.

Following the dinner, the meeting was called to order by the president, Dr. C. C. Stillman. Among other business it was moved, seconded and unanimously carried that the society go on record as adopting the following resolution:

"Be it resolved that the Clay County Medical Society endorses and heartily commends the Kansas City Star in its expose of the machination of the notorious J. R. Brinkley, thereby protecting a credulous and unsuspecting public—and in many cases those who are unfortunately ill."

The secretary was instructed to send a copy of this resolution to the Kansas City Star.

After the business session, Dr. Robert C. Davis of Kansas City, Missouri, gave a very interesting and instructive illustrated talk on "Subacute Bacterial Endocarditis."

Thirteen members and seven visitors were present. The visitors were: Drs.

H. C. Hanna, H. C. Mayer, H. C. Ross and L. S. Steadman of Junction City; Dr. George Brethour of Dwight; Dr. P. R. Webster, of Burr Oak, and Dr. Robert C. Davis, of Kansas City, Mo.

On motion the meeting adjourned at 9:38 p. m.

F. R. CROSON, Secretary.

BOOKS

Modern Otology by Joseph Clarence Keeler, M.D., Associate Professor of Otology, Jefferson Medical College, etc. Published by F. A. Davis Company, Philadelphia. Price \$10.00

The author admits he has been dissatisfied with other text books on this subject, a sentiment common to the authors that have preceded him and that will follow him, no doubt. His real reason for writing the book, however, is that out of his quarter of a century of practice and teaching he has acquired knowledge and experience in which the profession is entitled to share. That is sufficient excuse for anyone to write a book, if he needs an excuse. The author has given much time and effort to the preparation of this book and the result will certainly be appreciated by those fortunate enough to secure a copy.

Normal Facts in Diagnosis by M. Coleman Harris, M.D., Lecturer on Physical Diagnosis and Benjamin Finesilver, M.D., Lecturer on Diseases of the Nervous System, in New York Homeopathic Medical College. Published by F. A. Davis, Company, Philadelphia. Price \$2.50.

This is rather unique in the way of textbooks on diagnosis for it treats of the normal findings. No one can interpret abnormal signs who is not familiar with the normal. Diagnostic procedures in ordinary use are described.

Uterine Tumors by Charles C. Norris, M.D., Professor of Gynecology and Obstetrics University of Pennsylvania, etc. Published by Harper and Brothers, New York.

This is another of the Harper Medical Monographs. The author suggests the importance of the general practitioner being able to recognize new growths of the uterus even if he does not treat such conditions himself. All of the various kinds of new growths to be found in the uterus are carefully described.

The Normal Diet, by W. D. Sansum, M.D., Director Potter Metabolic Clinic, Santa Barbara, California. Third Edition. Published by C. V. Mosby Company, St. Louis. Price \$1.50.

This seems to be a discussion of the more common errors of diet with directions for their correction, but more particularly a simple statement of the principles upon which a normal diet should be selected.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number ever other month.) Volume 10, No. 2. (Chicago Number—April 1930.) 252 pages with 72 illustrations. Per clinic year (February 1930 to December 1930.) Paper, \$12.00; Cloth, \$16.00. W. B. Saunders & Company, Philadelphia and London.

Bevan presents two cases of gall stone disease, a case of congenital pyloric stenosis, appendicitis, double undescended testes, and carcinoma of breast. Kellogg Speed presents a tumor of the chest wall and two instances of small joint infection in adults. Bailey and Bucy discuss tumors of the spinal canal. Davis describes the Pauchet closure and presents a case of injury to the abdomen with explosion of a viscus. Straus and Rubin give an analysis of one hundred consecutive thyroidectomies. McWhorter describes the operative treatment for hypospadias. Gatewood discusses appendicitis in old age. Curtis presents a case of intrathoracic goiter. Christopher's clinic includes a variety of surgical conditions. Porter reports a case of coronary thrombosis simulating an acute surgical condition of the abdomen. Bettman has a clinic on Meckel's diverticulum. Miller presents some cases of strangulated hernia. Huggins presents four cases of hydronephrosis. Guy discusses Paget's disease. Hueper and Garrison discuss the surgical aspect of agranulocytosis.

Varicose Veins with special reference to the injection treatment by H. O. McPheeters, M.D., Minneapolis, Minn. Second edition, published by F. A. Davis Company, Philadelphia, Price \$3.50.

The popularity of this book seems to have justified a second edition within the year. From discussions and inquiries the author has learned the need for clarifying some of the statements made in the first edition. Some slight changes have been made in the technic. From frequent biopsy sections more has been learned concerning the pathology following the injections.

Treatment of Skin Diseases in Detail by Noxon Toomey, M.D., St. Louis, 512 pages. Published by Lister Medical Press, St. Louis. Price \$7.50.

The author has made no effort to describe the various skin diseases but as the title suggests, outlines the treatment for all of them. He has presented here to a large extent his own experience in private and dispensary practice of some years duration. There are no illustrations which of course would seem to be superfluous in a book on treatment only.

Trauma, Disease, Compensation, by A. J. Fraser, M.D., Chief Medical Officer, Workmen's Compensation Board, Winnipeg. Published by F. A. Davis Company, Philadelphia. Price \$6.50.

The subjects discussed by the author are of very great interest to the average medical man because of the problems continually arising in the adjustment of claims for compensation. He says that the points of difficulty arise most frequently in determining the causes of disease and disability. A large number of cases are cited, court decisions are noted and many of the opinions of medical men are stated. This book should be of considerable value to any one likely to be employed by injured workmen.

Clinical features of Heart Disease by Leroy Crummer, M.D., Emeritus professor of Medicine, University of Nebraska, second edition, revised. Published by Paul B. Hoeber, Inc., New York, Price \$4.00.

The author has presented in this book a very satisfactory clinical study of heart diseases, one at least which will appeal to the practitioner. Some of the finer details in diagnosis have not been included but his experience is reflected in every chapter and it is in the treatment of this class of diseases that experience ranks highest. Some additions and several changes are noted in this edition.

Cancer of the Breast by William C. White, M.D., Junior Surgeon Roosevelt Hospital, etc. Published by Harper and Brothers, New York. Price \$3.00.

This is one of Harper's Medical Monographs. It treats of the etiology, symptomatology and diagnosis of cancer, and more extensively of the treatment of cancer. Surgery as well as other methods now used are fully discussed.

The Baby's First Two Years by Richard M. Smith, M.D., Assistant Professor of Child Hygiene, Harvard Medical School. Third edition. Published by Houghton Mifflin Company, Boston. Price \$1.50.

The author proposes in this book to

teach the mothers what to do and what not to do in the care of infants. It has been revised and such changes made as the popular notions of the profession seem to require.

Surgical Clinics of North America (Mayo Clinic Number, February 1930.) Volume 10, No. 1. 174 pages with 82 illustrations. Paper, \$12.00 per clinic year; Cloth, \$16.00 per clinic year. (Issued serially, one number every other month.) W. B. Saunders Company, Philadelphia.

This number of the Surgical Clinics will be attractive to surgeons and physicians. In the first place, Mayo and Dixon describe a ureteral transplantation for exstrophy of the bladder. Judd, Marshall and Hartwell present some clinics showing some interesting gastro-intestinal lesions; and Balfour and McIndoe report some unusual tumors of the gastro-intestinal tract. Henderson and Myerding each report a series of cases in which bones are involved, either with fracture, dislocation or disease. Masson and Hamrick present an analysis of thirty cases of pseudomyxoma peritonei of ovarian origin. Lillie and Williams report some interesting cases associated with lesions of the sinuses. New and Figi each report a series of cases in which lesions of the face are dealt with. The cardiovascular reflexes are discussed by Markowitz and Mann. Horton describes a study of the vessels of the extremities by the injection of mercury. There are several other very interesting and instructive reports in this number.

"The time will come," shouted the speaker, "when women will get men's wages."

"Yes," said a little man in the corner, "next Saturday night."

— R —

Do You Know Your Pap-spoons?

This year, Mead Johnson & Company's exhibit at Detroit will feature a unique exhibit of historical interest to every physician who has a baby or who feeds babies.

Through the courtesy of Dr. T. G. H. Drake of the University of Toronto, there will be an exhibit of ancient feeding spoons, jugs, boats and nursing bottles, some of which date back to 500 B.C., gathered from various parts of the world.

At the Detroit session of the A.M.A., June 23-27, please do not fail to inspect this fascinating historical collection.

never before exhibited. Booths 292, 293 and 294.

—R—

Junior Medical Apprenticeships

The University of Kansas School of Medicine is planning on sending some of its Junior students out to work with active practitioners of the state. This service will begin on July 1 and last until the opening of the school year. The student is expected to assist his preceptor in any way he can. The preceptor or doctor to whom he is sent is expected to furnish the student at least his board and room in return for what assistance he can give him. Any active practitioner in the state who is interested in securing one of these students is requested to communicate with the Dean of the University of Kansas School of Medicine, Kansas City, Kansas.

—R—

A Message To Physicians

In "The Journal of the American Medical Association" for October 12, 1929, it was announced that the Council on Pharmacy and Chemistry had established a Committee on Foods to examine food products and literature regarding their composition and the claims made in relation to their application and usefulness—all subject to a series of rules, under which the Committee on Foods proposes to operate.

The purpose of the above statement is first, to acquaint the reader with the above movement in the interest of public health, and second, to advise that Mellin's Food and literature concerned have been considered and that Mellin's Food

is accepted by the Committee on Foods and that the Mellin's Food Company is entitled to make use of the "Seal" of the Committee. Your attention is requested to this insignia which is reproduced in the Mellin's Food Company's advertisement in this issue.

For a great many years accurate analyses of Mellin's Food and of Mellin's Food as prepared for the feeding of infants and as applied in the management of the diet in illnesses of children and adults have appeared regularly in this publication and in literature placed in the hands of physicians generally.

Notwithstanding the fact that this consistent work with the medical profession had long ago resulted in establishing Mellin's Food as a product of superior quality, it must be gratifying to the Mellin's Food Company to have it all confirmed by a committee acting upon the authority of the American Medical Association.

KANSAS PRACTICE FOR SALE—Town of six hundred, two railroads, Southeastern Kansas, graveled streets, paved roads in all directions to all towns, natural gas, twenty-four hour lights, sixty-five obstetrics in 1929, actual cash past six years \$37,700. No surgery done. Seven room home, near modern, built-in furniture, garden, fruit, chickens, etc. Two car garage. Cost \$4,400 four years ago, offer for \$3,500, half cash, rest long time. Office equipment mostly optional with terms. No triflers. Exclusive information given. Address A-548, care Kansas Medical Journal.

FOR SALE—Southern Kansas—four thousand dollar practice. Modern town, population seven hundred fifty. Churches, lodges, clubs, accredited schools. Excellent water, roads, climate, collections. Large territory. Office equipment list on request. Price one thousand cash. Introduction. Address A-547, care Journal.

POST-GRADUATE SCHOOL OF SURGICAL TECHNIQUE INC.

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A School of **Surgical Technique** conducted by Experienced practicing Surgeons

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3. **Special Courses:** Orthopedic and traumatic surgery; gynecology and radiation therapy; eye, ear, nose and throat, thoracic, genito-urinary and goiter surgery; Bronchoscopy, etc.

All courses continuous throughout the year.
Detailed information furnished on request

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No. 7

The Treatment of Fractures

JOHN R. NILSSON, M.D., Omaha, Neb.

Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

Six years ago Dr. Darrow, of Columbia University; Dr. Joseph Blake, of New York City, and Dr. Scudder, of Boston, appeared before the Regents of the American College of Surgeons and stated that from their observation and knowledge of the treatment of fractures, as generally practiced throughout the country, there was a great opportunity to improve methods of transportation and treatment of fracture cases, which would bring about better end results. The Regents, acting upon their suggestion, appointed a Fracture Committee, of which Dr. Scudder was made the Chairman, to thoroughly investigate the fracture situation and report. After a six year survey their report has been completed, and soon a "Fracture Primer" will be published in the official organ of the College. This will deal with the best methods of transportation and will give general principles for the treatment of fracture cases.

I am sure that this will prove a valuable guide to the general practitioner and the young surgeon who handles fracture cases. One who is in general practice does not have the opportunity to realize the importance of the proper treatment of fractures as one would who is connected with an industrial institution. When I tell you that the railroad companies of the United States paid out in 1928 the sum of \$20,000,000 for fracture cases alone, it will give you some idea of what these fracture cases really mean to the railroad companies of the United States annually.

I feel confident that this is one of the branches of surgery that needs improvement. Cases are coming to us, three to five months after injury with bad end results where no *x*-rays have been taken

during the course of treatment. I cannot see why a doctor will treat a severe injury case without an *x*-ray, when same is available in his own town.

A few months ago I was asked to see a woman in a hospital in Wyoming, who gave the following history:

She had fallen on the dance floor, injuring right knee. Her physician treated her for a sprain. After two weeks of severe suffering her husband insisted on an *x*-ray being taken. This disclosed a fracture of the distal end of the femur three inches above the knee. Her leg was four inches short. She was removed to the hospital where, in spite of treatment properly administered, she finally died as a result of this severe fracture.

Five months ago a young man was referred to me who, four months previously, had fallen from a wagon injuring left ankle. Same was placed in a plaster cast at the time of injury, and remained in the cast for five weeks—no *x*-rays taken. Cast was removed, leg swollen and after three months he was still unable to step on his foot. He changed doctors and his second doctor brought him to the hospital. On inspection his foot and ankle were swollen and a deformity was evident. *x*-Ray showed fracture of distal end of fibula healed in mal-position. Tibia dislocated forward on the astragalus. A reduction was attempted under an anesthetic, but this could not be accomplished. An open operation was necessary with a tenotomy of the tendo-achilles.

A third case. Simultaneous fracture of head and shaft of right humerus, with radial nerve paralysis, healed in mal-position. Patient had already undergone two operations at one of our large clinics, but they have not been a success and he is still disabled.

In one hundred cases of fractures of shaft of the femur, collected by Dr. Scudder, of Boston, where no *x*-rays had been

taken, not a single one of these was able to return to duty at his old position two years following the accident.

In a hundred cases treated by Dr. Sherman, of Pittsburgh, by the open method and plating, 95 per cent had a 100 per cent functional result and were well six and a half months after injury.

There are approximately eight hundred thousand fractures annually in the United States.

TREATMENT AVAILABLE—SEVERAL METHODS

1. Closed method—General anesthesia, splints, plaster Paris, and early motion.

2. Reduction by aid of local anesthesia (1 per cent novocaine.)

3. Skin traction—suspension and extension.

4. Mobilization—massage (Dr. Delbit method—Paris).

5. Skeletal traction by means of Ranshoff's Tongs—Steinman pins.

6. Open method, Lane plate, Parham band.

TREATMENT OF SEVERE INFECTED FRACTURES BY SUSPENSION AND EXTENSION

Quoting from Dr. Joseph Blake: "During the early part of the war ordinary splints and plaster Paris were used. Many cases of edema, rapid atrophy of muscles, severe hidden infections, ankylosed joints and gas gangrene were the result, and many extremities were left in a hopeless, deplorable condition. Our colleagues, the English and French, soon saw the necessity of discarding the splints and plaster Paris and resurrecting the old Balkan frame, Thomas, Hodgins and Murray splints, and placing extremities in suspension and extension. The great advantages of this form of treatment became at once apparent. The circulation in the limbs was better, the wounds were accessible, union more rapid, and the best of all, the patients had no pain. Articulations were seldom fixed and muscles were always accessible for massage."

In our hospital in Paris we had many Balkan frames, splints used were Thomas, Hodgins and Murray. All extremities were placed in suspension and extension after debridement had been performed. In badly infected cases

Carrel-Dakin tubes were used and various solutions, such as Dakin's made from chlorin gas, A B C solution (phenol 1 per cent, alcohol 10 per cent, boric acid saturated solution), the free drainage antiseptic solutions. Extension and suspension saved most of our extremities. During my service in the A.R. M.H. No. 3, in Paris, we lost only three cases out of the several hundred treated, and that was due to secondary hemorrhage. As soon as all infection had subsided massage was begun by a trained nurse.

METHOD OF ATTACHING TRACTION APPARATUS

When ZO was not available we used Sinclair's glue, consisting of the following:

Glue 50 parts,
H₂O 50 parts.
Glycerin 2 parts,
Calcium chloride, 1 part,
Thymol, 1 part.
to be applied warm.

TRACTION

Object is to overcome longitudinal deformity, that is overlapping and angulation pull should be in axis of proximal fragment, and fixation of joints is disregarded. Amount should be sufficient to reduce fracture in the first twenty-four hours, then reduce weights.

RADIOGRAPHIC CONTROL

x-Ray frequently when using traction and extension method.

SUMMARY

1. All fractures should be treated as emergencies, and by the closed method whenever possible. I believe in, and practice, reducing fractures at once. I never wait three or four days for the swelling to subside as is taught by some surgeons. The report of the English investigation committee on the fracture situation in England states that the delay in setting fractures is responsible for faulty reductions more often than any other factor, and, therefore, is often the cause of an operation.

2. Minor surgical procedures should be tried in difficult cases such as Steinman pins, and Ranshoff's tongs.

3. If reduction is impossible by minor methods, open operation should be performed, and in my work I have been using the Lane plate, Parham bands,

ordinary screws, and aluminum bronze wire.

The British Medical Association appointed a committee about four years ago to investigate relative results in fractures, open and closed methods. Their conclusions were as follows:

1. Non-operative in children 90.5 per cent good functional results. Operative in children 93.6 per cent.

2. Progressive depreciation of functional results from non-operative as age advances.

3. Operative give higher percentage of good results at all ages.

4. Best way to get a good functional result is to secure a good anatomic result.

5. A method that does not definitely promise a good anatomic result should not be chosen.

6. Best results operate early, not after failure of non-operative method.

7. Operative treatment requires skill and expense.

8. Mortality rate practically nil.

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The Treatment and Management of Tetanus

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Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

"Tetanus is a disease caused by an infection with the *Bacillus tetani*, and characterized clinically by a toxemia in which the central nervous system is attacked, producing tonic spasm of the muscles."

In discussing this subject I want to base my remarks upon my observation of a number of cases and especially upon one case.

It might seem that with the well-established use of antitetanic serum in the treatment of tetanus a thesis with no *new* factors for the relief of this dreaded disease would be an imposition. However, with an experience of thirty-seven cases covering a period of nineteen years—seventeen of which were seen during an internship—all of which, except one, went the chloroform route, there would at least seem to be grounds for improvement in the management and technique with such factors as we now possess,

even though no new remedy was to be offered. Therefore, when I was called to see a case that had the well developed lockjaw and general muscular rigidity even to opisthotonos, resulting from a nail wound in the foot eight days before, I realized that nothing short of heroic efforts would be worthy of consideration. As I had an intimation before leaving the office of what I might encounter, I armed myself with all the antitoxin available, ten thousand units, and at once administered the full amount intravenously and would have given three times the amount if I had had it.

Before we enter into a discussion of the case in hand, let me review a few of the well-established facts concerning tetanus.

Regarding the etiology of tetanus, I shall enter into no elaborate discussion more than to emphasize the fact that the tetanus germ thrives only in closed wounds. That is they are anaerobic. And that punctured wounds are the wounds that are most susceptible to tetanic infection, however, I have seen two cases of tetanus develop with open wounds. I remember distinctly one case of a man that had his hand crushed in the cogs of an ice cream freezer producing an open and mangled wound, and which was not closed as there were no free edges to approximate and yet the man developed tetanus. Therefore in the etiology of this disease I would include not only punctured wounds but mangled wounds. It is also well to keep in mind that the specific germ of this disease is a spore bearing bacillus, which may reproduce after eight or ten days after ordinary sterilization. However, aside from the specific origin of this disease I think there are other factors aside from the germ and nature of the wound that should claim our attention and careful consideration, because I feel that they are the basic principles upon which the successful issue in the treatment and management of these cases depend. It is a well established fact that the clinical manifestations of tetanus are due to a toxin produced by the germ at the site of the wound, and manifested clinically by sufficient irritation of the central nervous

system to produce spasms. Therefore in order that we may the more intelligently engage in the treatment and management of the person suffering from a well developed case of tetanus, let us consider, not only the origin of the toxin, but the following points:

First: From the port of entry, how does the toxin find its way to the nerve centers, and how long does it require to make the journey?

Second: When does the antitoxin neutralize the toxin and with what rapidity does it reach this point after being administered?

Third: What portion of the antitoxin administered reaches the part of the body where the toxins do their deadly work?

Fourth: Is it possible to anticipate the amount of toxin produced in the wound?

Fifth: How is it best to control spasm and hypersensitiveness.

The greatest portion of the toxins produced are found in the blood and find their way to the central nervous system by way of the motor-nerve tracts, either by way of the axis cylinders or the lymphatics of the nerves. At the present time it has been shown, and the theory prevails, that there might be circulating in the blood of a person infected with tetanus many times the fatal dose, if not many thousand times the fatal dose, with no fatal issue until the fatal dose or amount of toxin has reached the nerves and ganglia of the central nervous system. Ramson (page 400 Hare) has demonstrated, by intravenous injection of antitoxin, it is possible to neutralize the toxin in the blood in a very few minutes, almost as rapidly as in a test tube experiment. Therefore, the real conflict lies in neutralizing the toxin after it has left the blood through the capillaries, while it is in migration through the fine interstices of the connective tissue through which it must penetrate before reaching the nerves. And that there is an interval between the time that the blood becomes supersaturated with toxin and the time that the fatal issue may occur, has been demonstrated by injecting thirty thousand fatal doses into an animal which survived twelve hours; ten

fatal doses and the period was twenty-four to thirty-six hours and when only two fatal doses were administered, the time was two or three days. And that the first warning we may have of there being a case of tetanus, such as reflex excitability and muscular rigidity may and does occur long before the fatal dose has passed beyond the reach of antitoxin, has been demonstrated by such cases recovering. Therefore, the interval between the time we have our first suggestion of tetanus and the time necessary to absorb a fatal dose is our opportunity for heroic work. Now it has been shown that antitoxin administered subcutaneously is absorbed very slowly—twelve to twenty-four hours before the maximum amount finds its way into the circulation. Therefore, the subcutaneous method is mentioned only to condemn it, because of this very slow absorption from the tissues it will, in most all cases, jeopardize the life of the patient. In administering prophylactic doses and in the later stages of the disease the subcutaneous method may be used but never relied upon in the active treatment of a well developed case. The intradural administration of the serum has the advantage of the intravenous route only to the extent of neutralizing the toxins free in the cerebro spinal fluid quickly, but since the toxin exerts its deadly influence upon the centers of the central nervous system, simply neutralizing the toxin in the cerebro-spinal fluid would not give us the desired effect until the antitoxin would be absorbed, and since the absorption from the cerebro-spinal fluid is slow as compared to other routes, a reliance upon the intraspinal method alone is condemned. When injected intravenously a portion of the antitoxin passes very rapidly into the lymph, having been found in the thoracic duct of a dog two minutes after being administered. But that it reaches the cerebro-spinal fluid slowly is proven by the fact that the fluid never contains more than 2 per cent of the amount of the antitoxin in the blood. Therefore, with this comparatively fixed result existing between the amount in the blood and that found in the cerebro-spinal fluid, we are surely justified in conclud-

ing that the amount of toxin in the tissues between the capillaries and the lymph and axis cylinders of the nerves is the same graduated and fixed proportions or, in other words, the more antitoxin units that are in the blood the more will find their way into the tissues and is in direct proportion to the amount given. Bearing in mind all these facts, it is quite evident that a successful issue depends upon supersaturating the blood by intravenous injections of the large doses of antitoxin until there are signs of improvement. An intraneural injection of the antitoxin would place the remedy in more direct contact with the nerves, but I doubt if as potent as by the circulation, from the fact that absorption from the nerve sheath would be very slow and practically nil; and there would not be the advantage of neutralizing the toxin in the tissues on the way to the nerve cells.

Hare and Field performed a series of experiments on forty guinea pigs to test out the importance of small and large doses given either by intravenous or intraneural method and the experiments showed that moderate doses of antitoxin given after the development of tetanus does not save the animals from death or even prolong life, while very large doses could do both and they also state that if very large doses are given intravenously that the intraneural injections are not necessary.

In the experimental work with tetanus and tetanus antitoxin where it is possible to first determine the fatal dose of toxin to a certain animal and also to determine experimentally the amount of antitoxin necessary to counteract it, the experiments of Hare and Field are of great value in demonstrating to us that it is absolutely necessary to introduce into the system a sufficient amount of the antitoxin to neutralize the toxins being developed in the body, and since it is impossible for us to have any idea of the amount of toxin being produced in a case in hand, it remains for us to be guided by our better judgment and close observation of the case, and, if we should err at all, let us err upon the side of giving an excessive rather than an insuf-

ficient amount, for it seems to be quite evident that there can be more ill effects following such a course.

Therefore, when this case came under my observation, I began to administer the antitoxin intravenously, giving all I had, ten thousand units, at the first visit and at the rate of thirty thousand units every twenty-four hours at eight hour periods for the next four days, and then five thousand units a day for the next four days, giving in all one hundred and forty-six thousand units.

The accessory management and treatment, although not of a specific nature, I consider of much importance with a well-developed case of tetanus on hand; a person has many angles of defense to watch, and the convulsions are to be controlled with as little detriment to the patient as possible. Morphine, chloroform and bromides and chloral have long been the sheet anchors for this purpose. I think they should be used for quick relief if necessary, but not abused. In my observation of this case, I found that rigidity of the muscles and even convulsions could be lessened and controlled by keeping the patient under the control of a saturated solution of magnesium-sulphate administered hypodermically. I began with 1 cc doses every two hours and gradually increased until I gave 16 cc every two hours with $\frac{1}{8}$ gr. morphine added to every other dose, all the time watching for signs of depression. I discontinued the use of morphine with any regularity after four days, but continued the use of saline solution, gradually decreasing the frequency. I found upon repeated efforts to discontinue it entirely that the hypersensitiveness would increase, and just as soon as a dose or two was administered the patient was quiet. The administration of bromide and chloral after the first six or eight days would quiet the patient while under the influence and asleep, but as soon as the patient was awake there was the same hypersensitiveness. I then gave the saline alone and found the patient would be quiet although not asleep, and resting well as long as saturated with the magnesium-sulphate solution. Therefore, it was continued up to the third

week, giving only as required; the last few days only three or four doses in twenty-four hours. In the first ten days, or in the active stage of the disease, I found that a combination of saline in the day time and bromide and chloral at night gave very happy results, as nocturnal rest was afforded, and in the day time the patient was awake to co-operate in her care and management.

Therefore, I might sum up my observations as follows: Since toxin is neutralized by the antitoxin to the best advantage before it reaches the nerve cells and ganglia, and since we can administer antitoxin in a way that it will be absorbed and disseminated much more rapidly than toxin that is being or has been absorbed from the wound, it is very important that we take advantage of the first suggestion of tetanus and begin the administration of very large doses intravenously of antitoxin sufficient to supersaturate the blood and tissues, in order to overcome the toxin, as it were, on the way to the central nervous system.

In the control of the rigidity and hypersensitiveness, I would push the use of magnesium-sulphate solution, reinforced in the early stages with morphine in small doses administered principally in the wakeful periods, and use bromides and chloral at night. I gave two doses of saline each night and continued the use of saline as long and as often as required to control the rigidity and hypersensitive condition of the patient, extending far into the convalescing period, even to the end of the third week.

And finally in considering this dreaded disease, not the least important point is prophylaxis. Every case of probable or possible tetanus infection should have a prophylactic dose of 1500 units of anti-tetanic serum, administered subcutaneously. If the wound is traumatic, it should be opened up, cleansed, and free drainage provided. Where there may be missiles of metal imbedded in the tissues the parts should be x-rayed and if any such are present, removed. Wounds of the hands by the fourth of July blank cartridges are the most deceiving to the eye of the layman. Usually there is simply an abrasion of the skin noticeable.

But in practically all cases when the wound is explored there is found imbedded in the tissues the wad of the cartridge. It was this class of wounds that was the cause of the majority of the cases coming under my observation several years back. Disinfection with peroxide is very effective, if the peroxide is placed in the wound, not on the surface of the wound. The free oxygen liberated is antigenistic to the anaerobic bacillus. In the treatment of punctured wounds I find it very effective to open slightly, and pass a silk drain saturated with iodine to the bottom of the wound.

However, when we are deprived of the privilege of prophylaxis, we are called to meet the issue squarely, with a well developed case of tetanus in hand, we should remember that the seriousness of the situation demands heroic efforts, and should act accordingly. Therefore permit me to tabulate a basis of action:

First: Tetanus antitoxin administered in massive doses. First, intravenously, not less than 10,000 units and if the case has been late in developing and the symptoms are well developed, better use 20,000, with 5,000 intraspinally. And if seen very late, better the intraneural method should also be used for one dose at least. Repeating the intravenous doses in eight to twelve hours according to the severity of symptoms. Tapering off in the use of the serum by the subcutaneous method.

Second: Disinfection of the original wound. Best by free incision, disinfection and drainage, and saturation of the tissues around the wound with tetanus serum.

Third: Isolation of the patient. Not only for the benefit of the patient but for the protection of others as tetanus is a contagious disease.

Fourth: Saturated solution of magnesium sulphate administered subcutaneously. Beginning with 1 cc doses every two hours and increasing 1 cc each dose, until sufficient amount is being given to control the hypersensitiveness and convulsions. Watching the respirations, not the cyanosis. In the early stages reinforce the magnesium sulphate solution with $\frac{1}{8}$ grain morphine in every

other dose, and bromide and chloral, especially at night. Gradually dropping off the narcotics and sedatives, but continuing the magnesium sulphate far into the convalescing period.

Fifth: Free elimination, catheterization if necessary.

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Necrology Report

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Chairman, Committee on Necrology

Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

Since our last report at the Hutchinson meeting in 1929, the Necrology Committee has obtained a list of ninety-six "doctors," who had died in Kansas. We found that fifty-three of these decedents should be reported as having spent their active professional lives in the state of Kansas.

We obtained our information about these fifty-three decedents from the Kansas and American Medical Directories, the Journals of the Kansas State and the American Medical Associations, the obituary notices in newspapers, from correspondence with the secretaries of the county societies, from other physicians in the communities in which deaths occurred, from relatives of the deceased, from postmasters, and from copies of the death certificates which the secretary of the state board of health sent us.

No delayed reports from the year 1928 are necessary this year. Of the sixty-one organized local societies, twenty-nine secretaries report no deaths, but one death did occur in one county so reporting. Twenty secretaries report twenty-seven deaths, and one other death, not reported occurred in one of these counties, a total of twenty-eight deaths. Three unorganized counties reported three deaths. Four unorganized counties did not report, but one death occurred in each county of the four. Six organized counties made no report whatever, but no deaths are known to have occurred in these counties. Thus the fifty-three deaths occurred in thirty-three counties, only thirty of which were reported by twenty-three county secretaries.

According to the 1929 edition of the American Medical Directory there are

two thousand two hundred and fourteen physicians in Kansas. Thus these fifty-three deaths are equivalent to twenty-three and twenty-five hundredths per thousand. A decrease over last year of five and seventy-five hundredths per thousand. The Kansas State Board of Health reports the percentage among the people throughout the state for the year 1929 as ten and five tenths per thousand.

Of the fifty-three deaths reported, thirty-five were members of this Society, twelve were not members, and the status of six was not stated. Thirty-four of the deceased were in active practice, and nineteen were retired.

The ages of death of the fifty-three varied from twenty-seven to eighty-eight. One was under thirty years of age. Two were thirty to thirty-nine inclusive, four were forty to forty-nine, eleven were fifty to fifty-nine, eight were sixty to sixty-nine, sixteen were seventy to seventy-nine and eleven were eighty to eighty-eight.

The age of death was not given in three instances. Of the fifty in which it was given it was as follows:

Some form of heart disease (including cardio-renal disease) caused nineteen deaths. Cerebral conditions, such as apoplexy, thrombosis and embolism caused nine deaths. Pneumonia in some form, including one case of influenza caused five deaths. Carcinoma of the various organs also caused five deaths. Two were said to have died from senility. Duodenal ulcer, enteritis, acute indigestion, appendicitis, acute nephritis, suicide, abscess of the liver, pernicious anemia and spinal sclerosis each caused one death. Death followed operations in five instances of the fifty-three.

The shortest length of time from graduation was one year. The longest sixty years. Forty-eight were graduated in medicine. Three were non-graduates and the status of two was not stated. One had been graduated and licensed one year, five from ten to nineteen years, eleven from twenty to twenty-nine years, eight from thirty to thirty-nine years, fourteen from forty to forty-nine years, eleven from fifty to fifty-nine years and

one had been graduated sixty years. The length of time from graduation or license was not mentioned in two instances.

The dates of death per months were as follows: Four died the last half of April, 1929, three in May, four in June, three in July, seven in August, four in September, four in October, three in November, four in December, five in January, seven in February, four in March and one during the first half of April, 1930.

The positions of honor and trust held, both as citizens and physicians were varied. Many were prominent in the political, civic, lodge and church affairs of their several communities.

Three were pioneer physicians of the state, one coming to the territory of Kansas in 1858, one being a founder of the city of Anthony, and one of Dodge City.

Ten, nearly a fifth, of the total number of decedents, had served their country in an active military capacity as follows: Three were Civil War veterans, one being a guard of honor at Lincoln's funeral. One was a Spanish-American War veteran. Two were World War veterans, one other was a captain, and two others majors in the medical corps. One was an army flight surgeon. One was a major in the medical reserve corps during the war, and one was a lieutenant colonel in the medical reserve at the time of his death, making a total of six World War veterans deceased this year. One had served on his district draft board during the World War. Two had been the first commanders of the American Legion posts in their respective communities, Kansas City, Kansas, and Paola.

At the time of his death, one was a trustee of Washburn College. One had served as a member of his local school board. Two as councilmen. Five had been mayors of their cities, and one other was acting in that capacity at the time of his death. Two had been a representative in the state legislature.

Many were on the staffs of their local and neighboring hospitals. One had been chief of staff of the Providence Hospital, Kansas City. Two were serving their

internship. Six were railroad surgeons, one being in charge of a railroad emergency Hospital at the time of death.

Three had been pension examiners, one a county coroner, two county health officers. One was surgeon at the State Penitentiary, Lansing. One at the time of his death was a member of the state board of registration and medical examination.

One was a founder of Christ's Hospital, Topeka. One had been president of the Topeka Academy of Medicine and Surgery, and also of the Kansas Medical College. Two were founders of the Kansas Medical College which was later merged with the School of Medicine at the State University. Three had been instructors in their specialties in the medical department of the State University. One had been editor of the Kansas Journal.

At the time of his death, one was secretary of his county society. Six had been presidents of their county societies. One had been president of the Atchison, Topeka and Santa Fe Railroad Medical Association. One had been president of the State Eclectic Society. One had been president of the Eastern Kansas Medical Society, and president of the Golden Belt Medical Society, and one was a former president of the Kansas State Society.

One was a member of the American Psychiatrist Association. Two were members of the American Academy of Ophthalmology and Oto-Laryngology. One had been three times a member of the House of Delegates of the National Society. Five were fellows of the American College of Surgeons.

THOMAS BAILEY ALLISON, Towanda, aged 61, died of duodenal ulcer, November 26, 1929. He practiced formerly at Gueda Springs. Was not a graduate, but was licensed in 1901. Was not a member of the Society.

CHARLES B. APLIN, Solomon, aged 60, died of cerebral hemorrhage April 24, 1929. He was graduated from the Columbus, Ohio, Medical College in 1892. Formerly practiced at Lawn and Delphos. He was a member of the Kansas Medi-

cal Society and a Fellow of the American Medical Association.

ANDREW G. ANDERSON, Salina, aged 59, died of enteritis, August 13, 1929. He was graduated from the St. Louis College of Physicians and Surgeons in 1898. He was an ear, eye, nose and throat specialist and on the staffs of the Asbury Protestant and St. John's Hospitals. He was a member of the Society.

HAROLD W. ANDERSON, aged 27, died at Bell Memorial Hospital, Kansas City, of lobar pneumonia, December 4, 1929. He was graduated from the University of Kansas School of Medicine in 1928. He was acting as an instructor of pathology at the institution and serving his internship in Bell Memorial Hospital at the time of his death.

SHERMAN LA BARON AXFORD, Lansing, aged 50, died at St. Luke's Hospital, Kansas City, of cardio-renal disease, February 27, 1930. He was graduated from the College of Physicians and Surgeons, Kansas City, Missouri, in 1902. He practiced in Dunlap until appointed physician of the State Prison at Lansing in 1909, which position he held for seventeen years. He had served as president of Leavenworth County Society, and was a member of the Kansas Medical Society and a fellow of the American Medical and of the American Psychiatric associations.

BENJAMIN M. BARNETT, Kansas City, Kansas, aged 74, died of angina pectoris, September 4, 1929. He was graduated from the Jefferson Medical College, Philadelphia in 1882. He practiced for forty years in Rosedale before it was incorporated with Kansas City, and had served as a member of the council and twice as mayor of Rosedale and was active in Kansas City civic affairs. He was on the staff of Bethany Hospital. He served as president of Wyandotte County Society in 1904 and was a member of the Society.

VERNON PERCY BOOTH, Oxford, aged 46, died at St. Mary's Hospital, Wichita, of cardiac infarction, August 28, 1929. He was graduated from the Kansas Med-

ical College, Topeka, in 1909. Had practiced formerly at Dexter. He was a member of the Kansas Medical Society and a fellow of the American Medical Association.

DAVID BERNSHAW BUHLER, Pretty Prairie, aged 50, committed suicide by lysol poisoning January 25, 1930. He was graduated from the Kansas Medical College in 1904. He was a member of the Kansas Medical Society and a fellow of the American Medical Association.

JAMES WATSON CAMPBELL, Halstead, aged 45, died of coronary thrombosis, January 27, 1930. He was graduated from the University of Kansas School of Medicine in 1914. He was a captain in the medical corps of the World War. He was on the staff of the Halstead Hospital for six years. He was a member of the Kansas Medical Society and a fellow of the American Medical Association and of the American College of Surgeons.

HOWARD M. CASEBEER, aged 75, died in San Diego, California, October, 1929. He was graduated from the University of Michigan School of Medicine, Ann Arbor, in 1876. He was retired for several years. Formerly had practiced at Independence and had served as president of the Montgomery County Society in 1908.

JAMES S. CHASE, Topeka, aged 81, died of influenza January 23, 1930. He was graduated from the Western Reserve University School of Medicine, Cleveland, Ohio, in 1871. He was a Civil War veteran and one of the guard of honor at Lincoln's funeral. Was a surgeon for the Santa Fe and had practiced in Lyons sixty-one years. He was not a member of the Society.

FAY PORTER CLARK, Kansas City, Kansas, aged 57, died of carcinoma of the stomach resulting from his pioneer work with *x*-ray, December 13, 1929. He was graduated from the College of Physicians and Surgeons, Kansas City, in 1898. He had been county physician and was on the staff of the Bethany Hospital many years. He was a member of the

Kansas Medical Society and a fellow of the American Medical Association.

WILLIAM EMMETT CRAWFORD, Council Grove, aged 76, died at the home of his daughter in Kansas City, Missouri, of myocarditis, August 30, 1929. He was graduated from the Kansas City Medical College in 1888. Was a surgeon for the Missouri Pacific Railroad and had been Morris county health officer. Retired.

JACOB GRAY DORSEY, Wichita, aged 69, died of pneumonia, November 15, 1929. He was graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1883. He was formerly on the staff of St. Francis Hospital. Was a member of the Kansas Medical Society and of the American Academy of Ophthalmology and Oto-Laryngology, and was a fellow of the American Medical Association and of the American College of Surgeons.

ALLAN W. DORTCH, Arkansas City, aged 56, died of valvular heart disease and bronchiectasis, March 21, 1930. He was graduated from the American Medical College, Indianapolis in 1895, and from the University of Medicine, Indianapolis, 1898. He was a Spanish-American War veteran. He was not a member of the Society.

FRED WALLACE DUNCAN, Coffeyville, aged 45, died at St. John's Hospital, St. Louis, following an operation for multiple abscess of the liver, July 23, 1929. He was graduated from the Washington University Medical School, St. Louis, in 1906. He was a member of the Kansas Medical Society and a fellow of the American Medical Association and of the American College of Surgeons.

HARRY S. DURRETT, Ellis, aged 77, died at St. Anthony's Hospital, Hays, of carcinoma of the pancreas, August 13, 1929. He was graduated from the Louisville Medical College in 1879. He was a member of the Society.

LEWIS LINDSAY DYCHE, JR., Utica, aged 33, died of acute nephritis, April 29, 1929. He was graduated from the University of Kansas School of Medicine in 1919. At the time of his death was secretary of the Rush-Ness County Society

and was a fellow of the American Medical Association.

CHARLES AMBROSE FISHER, Pittsburg, aged 73, died of acute indigestion April 18, 1929. He was graduated from the Medical College of Indianapolis in 1881. He had been mayor of Pittsburg and a representative to the state legislature and was active in politics. He had been county coroner and at the time of his death was in charge of the Emergency hospital of the Kansas City Southern Railroad but had retired from active practice. He was not a member of the Kansas Medical Society.

WILLIAM JOSEPH GATES, aged 62, died in Arlington, California, of apoplexy July 4, 1929. He was graduated from the Kansas City Homeopathic Medical College in 1895. Formerly had practiced in Kansas City, Kansas, and had been on the staff of Bethany Hospital and Chief of Staff of Providence Hospital. He was three years major in the medical corps during the World War and was the first commander of the American Legion, Kansas City, Kansas. He was formerly member of the Wyandotte County Society. Retired two years.

JACOB HENRY HALDEMAN, Paola, aged 67, died at Research Hospital, Kansas City, Missouri, of bronchopneumonia, February 18, 1930. He was graduated from the Jefferson Medical College, Philadelphia, in 1883, and had also attended the Kansas City and Rush Medical Colleges. He was a major in the medical reserve corps during the World War and was the first commander of the Paola American Legion. He was on the staff of the Research Hospital, Kansas City, Missouri. He was a member of the Miami County Society.

FRANK KERR, Greenwich, aged 70, died in Wichita of cardiorenal disease, September 23, 1929. He was graduated from the Barnes Medical College, St. Louis in 1894. He was formerly a member of the Sumner County Society. Retired.

JOSEPH PERRY KING, Galena, aged 62, died at the home of his son in Pittsburg, of cardiorenal disease, May 28, 1929. He

was graduated from the Eclectic Medical University, Kansas City, in 1915. He had been mayor of Galena. He served as president of the State Eclectic Society, 1927-28.

HENRY NELSON KIRKPATRICK, Anthony, aged 80, died of senility, January 21, 1930. He was graduated from the St. Louis Medical College in 1878. He came to Kansas in 1858, when it was still a territory. He was one of the founders of Anthony, a member of the council, and the second mayor of Anthony. He was also a druggist and he had been a pension examiner. He was not a member of the Society.

JOHN CALVIN KLEPINGER, Kansas City, Kansas, aged 59, died at Research Hospital, Kansas City, Missouri, of cerebral hemorrhage, August 9, 1929. He was graduated from the University of Illinois College of Medicine, 1897. Formerly had practiced in Herington and Independence. He was a member of the Kansas Medical Society and a fellow of the American Medical Association.

GEORGE WASHINGTON LOWMAN, Oskaloosa, aged 85, died of cerebral embolism, January 21, 1930. He was graduated from the Cincinnati, Ohio, Medical College in 1877. He was a Civil War veteran and had lost an arm in that conflict. He was a surgeon for the Rio Grande Railroad.

ARTHUR LEE LUDWICK, Overland Park, aged 58, died at St. Mary's Hospital, Kansas City, Missouri, of coronary occlusion, March 2, 1930. He was graduated from the University Medical College, Kansas City, Missouri, in 1894. During the World War he was a major in the medical corps, and attended the Army Flight Surgeons' School, Mineola, L. I. At the time of his death he was a lieutenant colonel in the medical reserve corps. He specialized in nervous and mental diseases. He had served as president of Johnson County Society and was a fellow of the American Medical Association.

EDGAR JACOB LUTZ, Salina, aged 68, died of peritonitis following an abdominal operation, May 12, 1929. He was

graduated from the Baltimore University School of Medicine in 1886. He was on the staffs of the Asbury Protestant and St. John's Hospitals. He had served as president of the Saline County Society.

THOMAS L. McCARTY, Dodge City, aged 82, died of cerebral hemorrhage April 2, 1930. He was graduated from the Jefferson Medical College, Philadelphia, in 1870. He was one of the oldest practitioners in western Kansas, arriving in Dodge before it was organized as a town. His early day experiences included raids of the hostile Indians and the Texas cattle drives, and he was personally acquainted with most of the pioneer characters of the early days of Boot Hill Dodge. His son was the first white child born there. He was surgeon for several railroads. He was a member of the Kansas Medical Society and a fellow of the American Medical Association.

JOHN CALHOUN McCLINTOCK, Topeka, aged 74, died of chronic endocarditis, June 27, 1929. He was graduated from the Rush Medical College in 1879. He had been on the staff and was one of the founders of Christ's Hospital and of the Kansas Medical College of which he served as president and professor of the Practice and Principles of Surgery, until its merger with the State University School of Medicine. He was given several honorary degrees by various Kansas colleges because of his exceptional work for education and medicine in the state. He was a trustee of Washburn College at the time of his death. He had been president of the Topeka Academy of Medicine and Surgery. He had served as president of the Eastern Kansas Medical Association and the Golden Belt Medical Society. He was a member of the Kansas Medical Society. Was retired for six years.

THOMAS E. McCORMICK, Plainville, aged 52, died at St. Anthony's Hospital, Hays, of pneumonia, February 18, 1930. He was graduated from the St. Louis University School of Medicine in 1906. He was a member of the Kansas Medical Society.

JAMES WHITTIER MAY, Kansas City, Kansas, aged 50, died at Bell Memorial

Hospital of pernicious anemia, December 19, 1929. He was graduated from the College of Physicians and Surgeons, Kansas City, in 1900. He was a World War veteran. He was on the staffs of St. Margaret's and Bethany Hospitals. At the time of his death he was on the State Board of Medical Registration and Examination. He was a medical author, and for six years editor of the Journal of the Kansas Medical Society. He had served as president of the Wyandotte County Society and Kansas State Medical Society. He was a member of the American Academy of Ophthalmology and Oto-Laryngology and was a fellow of the American College of Surgeons. He had been three times a member of the American Medical Association's House of Delegates, 1909-1918-1921.

MORRIS A. MILLARD, Topeka, aged 81, died of heart disease July 12, 1929. He was graduated from the University of Buffalo School of Medicine in 1873. He was a pension examiner. He was not a member of the Society. Retired.

WILLIAM ADAM MILLER, Kansas City, Kansas, aged 77, died of myocarditis, October 16, 1929. He was graduated from the Jefferson Medical College, Philadelphia, in 1888. He formerly practiced in Salina. He was a member of the Society. Retired.

LINZIE TILDEN MORRILL, Peabody, aged 77, died of senility, February 13, 1930. He was graduated from the Albany Medical College in 1873. He had specialized in gynecology. He was a member of the Kansas Medical Society and a fellow of the American Medical Association.

SAMUEL MURDOCK, SR., Sabetha, aged 88, died of angina pectoris, March 27, 1930. He was graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1876. He was a pioneer physician and surgeon in Nemaha County. He was a member of the Kansas Medical Society. Retired.

JOSEPH WAKEFIELD MYERS, Elkhart, aged 45, died of carcinoma of the stomach, August 2, 1929. He was graduated from the University of Kansas School of

Medicine in 1913. He was not a member of the Society.

PAUL REXFORD NEAL, Greenleaf, aged 37, died at Augustana Hospital, Chicago, of acute endocardial degeneration, November 12, 1929. He was graduated from Rush Medical College in 1917 and at the time of his death was an intern at the Augustana Hospital. He was a member of the Kansas Medical Society and a fellow of the American Medical Association.

JAMES L. OTTERMAN, Kansas City, Kansas, aged 81, died at Emporia, May 15, 1929. He was graduated from the American Medical College, St. Louis, in 1877, and the Kansas City Medical College in 1894. He was a Civil War veteran and was found dead in his room while attending the annual encampment of the G. A. R. He was retired.

WILLIAM JAMES PHILLIPS, Beaumont, aged 72, died at Wesley Hospital, Wichita, following an operation for carcinoma of the colon, September 15, 1929. He was graduated from the Iowa College of Medicine in 1885. He was not a member of the Society.

LEWIS N. PLUMMER, Muscotah, aged 80, died of apoplexy, August 24, 1929. He had practiced in Muscotah more than fifty years. He was not a graduate but was licensed in 1901. He was not a member of the Society.

JAMES CYRUS PRESTON, Buffalo, aged 66, died of cancer on the neck, September 19, 1929. He was graduated from the Medical Department of the University of Tennessee, Nashville, in 1885.

LEMMOX A. RUNNION, Arcadia, aged 75, died at Ft. Scott of myocarditis, February 8, 1930. He was not a member of the Society. Retired.

E. ORLANDO SLOANE, Pittsburg, aged 74, died of myocarditis and encephalitis, February 24, 1930. He was graduated from the Missouri Medical College, St. Louis, in 1881. He was not a member of the Society.

DANIEL M. SMITH, Kansas City, Kansas, aged 70, died at Providence Hospital

of cardiorenal disease, October 9, 1929. He was not a graduate but was licensed in 1901. Was on the staff of the Bethany Hospital and had practiced in the Argentine district thirty-five years. He was a member of the Kansas Medical Society and a fellow of the American Medical Association.

FRANCIS H. SMITH, Goodland, aged 76, died of heart disease, June 4, 1929. He was graduated from the State University of Iowa College of Medicine in 1882. He was on the district draft board during the World War. He had been twice mayor of his city and twice representative to the state legislature and always active in civic and community affairs. He was on the staff of the Goodland Methodist Hospital. He was a member of the Kansas Medical Society and a fellow of the American Medical Association.

SAMUEL W. SPITLER, Wellington, aged 80, died at the Menninger Hospital, Topeka, of cerebral hemorrhage, June 7, 1929. He was graduated from the Medical College of Ohio, Cincinnati, in 1875. He served as president of the A. T. & S. F. Hospital Association in 1927. He was a member of the Kansas Medical Society and a fellow of the American Medical Association.

SAMUEL G. W. STEVENS, Spring Hill, aged 74, died of cerebral thrombosis, June 19, 1929. He was graduated from the Columbus Ohio Medical College in 1883. He had been a member of the school board. He was a pension examiner. Was not a member of the Society.

WINFIELD OTIS THOMPSON, Dodge City, aged 51, died following an operation for appendicitis, March 13, 1930. He was graduated from the Jefferson Medical College, Philadelphia, 1903. He was mayor of the city at the time of his death. He was a member of the Kansas Medical Society and a fellow of the American Medical Association and of the American College of Surgeons.

GEORGE VON WALD, Marysville, aged 84, died in Kansas City, Missouri, February 27, 1930. He was a recluse and retired.

GEORGE SAMUEL WILCOX, Mulvane, aged 56, died of cerebral hemorrhage October 1, 1929. He was graduated from the Kentucky University Medical Department, Louisville, 1904. He was a member of the Kansas Medical Society.

JOHN WILSON, Humboldt, aged 83, died of spinal sclerosis, April 29, 1929. He was graduated from Rush Medical College in 1882. He was not a member of the Society.

JAMES MONROE WINEGAR, Hamilton, aged 79, died of cerebral hemorrhage December 10, 1929. He was graduated from the College of Physicians and Surgeons, Keokuk, in 1884. He was a member of the Kansas Medical Society. Retired.

—R—

What Is the Human Mind?

P. S. MITCHELL, M.D., Iola

Read at the Joint Meeting of the Franklin, Anderson and Allen County Societies, at Garnett, April 30, 1930.

To attempt to discuss a subject that Socrates, Plato, Aristotle, Spinoza, Schopenhauer, Bacon, Emerson, James, Watson and other master minds have ground in the crucible and found no solution, seems a travesty on higher intelligence.

It is indeed with a self-consciousness of my insignificance in the psychological and psychiatric world, that I do, and hereby tender you my apologies for the brazen effort.

Without further excuses then, I enter the jungles where angels fear to tread.

To the meta-physician and professed philosopher, mind is a metaphorical football, with which to match wits and dream dreams.

To the fundamentalist, mind is a spirit delegated by God.

To the materialist, it is an energetic product of the brain.

To the psychologist and psychiatrist, it is a means to an end.

To the hypnotist, it is a power to subjugate and become a plaything with which to mystify.

To the evangelist, it is the citadel of sentiment, upon which he directs his howitzers of reward and punishment, to

enlarge his numbers of proselytes.

To the salesman, it is a living.

To the promiscuous lover, it is a toy.

To the balyhoo announcer, it is his stock in trade.

To the quack doctor and patent medicine man, it is a gold mine.

To the fakir, it is making one see what he does not see.

To the physician, it is his associate of life, which must be guided from the cradle to the grave.

Fundamental laws have been advanced and relegated to the scrap heap, ever since Democritus in 400 B. C., offered the atomic theory. From that date till a few years ago, the atom reveled in her glory as being the last division of matter, when the proton crowded her off of first place.

Long before we made the acquaintance of the proton and its satellite, the electron, we were taught that matter and energy alike were indesructible, which, while not proven, remains yet to be disproved. So far as we are able to determine, quantities do not change but the quality combinations of either may be modified in their form only. Even the non-existence of matter, by some, is charged. We must permit Einstein to rest for want of time.

Permitting that to go unsettled, the axiomic fact remains, that a time was when compounds and their complex elements did not exist. It is eminently certain that a pre-elemental period prevailed, when compounds with their molecules and atoms were not in evidence, but the proton with its satellite, the electron, walked supreme. This is the state in which we must place a metal to accomplish alchemy as of the dream of olden times.

Some cataclysm was essential to break loose or knock off the electrons which was to inaugurate the great frolic, terminating in the formation of atoms, molecules, elements, compounds, stars and universes. A reduction in temperature was the essential thing.

Combines and points of attachment were legion. Groupings became choicy and selfish. Why? I do not know. Were the performance repeated, an entirely

different order might be the result. Hydrogen was the first element to appear and arrived in single blessedness as one atom. Oxygen followed in pairs and nitrogen in triplets. Calcium, phosphorus, sulphur and others brought up the train but not till carbon broke into the group- ing did a commotion arise.

It was carbon, the rowdy and rabble rouser, promoting dissatisfaction and breaking off of electrons, that manifested itself in reproduction, thereby establishing a new order. This freeing of energy becomes the primary life urge.

The carbon group reduction was protoplasmic in character. Chemical laws repeated themselves in demonstrating a replica of the atom on a grosser scale. The cell was the result and life stepped forth on her first parade.

This is only an hypothesis of the genesis of life. Many have been offered. The cosmic ray theory is now being advanced. Perhaps it is the cosmic ray that disturbed the carbon electron. All, that is of interest, in this paper, is the calling of your attention to the relativity and incidence of liberated energy in life's beginning, how it becomes the primary life stream and from desire for continuation, maintains the strongest urge in life's existence.

At a very remote period, life made her appearance in two types. It is not at all improbable, that vegetable preceded the animal. In form they were in many respects alike, while in others paradoxical.

Each maintains a circulatory system. The vegetable has its chlorophyl while the animal has its hemoglobin. Alike they increase in bulk and reproduce. One accepts oxygen and dispenses carbon-dioxide while the other does the opposite, thereby maintaining an equilibrium.

A few of the lower vegetables are motile, but as such, it is due to chemotaxis. The animal is generally motile. Motility is the greatest source for liberating energy but this manifests itself in force and not in the intellectual type that we are seeking. Thus we see there is an expenditure and liberation of energy in every function of life.

The writer found it necessary to enter into a biological discussion to a rather

undesirable degree, to lay the foundation for the genesis of the mind, so will drop it at this point.

This brings us to the directorship of the animal kingdom, viz., the Nervous System.

Under progressive development animal life grew more complex, thereby making an appeal for a means to expedite activities and receive responses. True to its natural urge, as reactionary demands arose, the cell answered the call by furnishing the requirement.

In anticipation of proof for this, Jacques Loeb removed the ganglion which constitutes the entire nervous system of the sea-anemone. He subjected the wounded animal and a check to the stimulus of dropping water. His expectations were rewarded by finding the responses identical. The only requirement, added to the wounded animal, was a greater distance for the water to drop. Hence, the logical deduction drawn by him was that the nervous system is not an essential, but merely a facilitator for reflex action. Mental processes in more highly developed life is merely an attenuated reflex action. As animal life advanced to a yet more complex existence, a more intensely organized administrator was required, which was annexed as a bud and is now denominated **the brain**. This organ does not appear with the advent of primary embryonic elements but becomes manifest later in the embryonic growth.

Our anthropologic friends, now unhesitatingly insist that man has been a guest of this old planet for some fifty million years, which probably is not far from the truth. If they are correct, the point I desire to make is that it is only fair to conclude that an organ, whose invariable function has been to assume the directing capacity of animal life through a reproductive period of millions of years, on attaining its most highly accomplished development, should be productive of a conscious and analytical intelligence, equivalent in character to that magnificent achievement of which our age so proudly boasts.

Vestigial rudiments of the ganglionic system, representative of lower animal

life, continue and function in the human as our vegetative plexuses. In this unorganized system much intelligence may, however, be determined. It is the watchful guard that maintains life during our unconscious periods, we call it the sympathetic system. It often instigates knotty problems to solve and misleads the unwary.

Quoting from Loeb again: "All brain and nerve tissue is protoplasmic in character and differs not in quality but only in quantity, from other tissue." It therefore acts only as a rapid transit.

All terminal nerves lead directly or indirectly to the brain. Ganglia are to be found at many intersections. It is a generally accepted theory that impulses emanate from the cells or gray matter and are transmitted by the white fibers. This brings us face to face with "Our Hypothesis."

As before stated, the brain is a budded-on organ in the higher animal life, including man. There is no reason to believe that the brain responds differently in the animal from that of man, allowing for man's advanced development. No one question, that the brain is the throne from which all orders radiate. But how?

My answer. The human infant enters the world at birth without mind but endowed with a brain, qualified in character, as a gift from its progenitors. The brain is a blank, of white and gray matter or in other words composed of fibers and cells, ready for the gong. The brain maintains two functions, viz., to act as a receptacle and to generate a force or energy; which, for my descriptive argument I shall term Beta-energy. Beta-energy is a highly specialized type of force, whose function it is to get impressions to the ganglionic cells and obtain a response therefrom.

All terminal nerves connect directly or indirectly with the brain. They are open at all times for Beta-energy to pour through. The stimulus of an impression is required to open the circuit. We are unable to attach energy meters to nerve terminals to prove our contention but we must think of mental activity in terms of circuits, neutralization, insula-

tion and such as are explanatory by physical means.

Let us use the optic nerve as the example. The infant's eye opens for the first time to light. Light waves from an object form a picture upon the retina of the child. Perhaps the first few are inadequate to open the circuit and stimulate a response, but the call in time is answered. So let us reason how this impression actually reaches the brain. Why does it not fall lifeless after striking the retina?

To illustrate, may I cite an analogous action; band music in Kansas City strikes the diaphragm of a radio broadcasting machine. It comes in contact with the receiver as a sound wave. Why does it not cease to function at this point? Because, attached to that diaphragm is a device through which an electric current passes that becomes broken by the sound waves. These sound waves are transmuted into electrical waves which pass through an electrical device in our receiver, thereby delivering the identical vibrations of sound or music to us. All the rest consists of amplification and is not identified with our subject. In this case sound is not conducted through space, but transmutation of the sound as electrical waves.

In the case of the human eye, a light picture falls upon the retina and should die there but for the fact that the impression opens the circuit, B-energy pours through and transmutes the light waves, recorded on the rods and cones, into B-energy, which is navigable to nerve fibers and intelligible to brain cells.

The impression as transmuted B-energy is delivered to the judgment area and responses relayed back, where they are interpreted to such nerve terminals as are required. Each repetition helps to develop a track that is made easier to travel each consecutive time that it is used. This we denominate habit and probably is an aid to memory. In the beginning many repetitions are required, many associations from without and from within are brought together to complete a mental structure. All primary impressions must arise from without.

Association of impressions already within may occur, giving rise to new combinations and thoughts. These are often erroneously construed as being picked up from the uninhabited jungles of the brain as a primary impulse or mental perception.

What is mind? It is the combined responses of brain cells to impressions from without and their associations within as interpreted through and by B-energy to the nerve terminals. It is ever in the making. All major impressions are conducted over selective and individual tracks. All impressions carry many associated ones with them. The first few years design the paths that remain well defined throughout life. Probably nerve fibers become sensitized to the repeated service and respond after an intelligent manner to aid in this complicated work.

The exact method of responses from the brain cells is yet beyond us, but we are at least safe in not endowing them with primitive initiative intellect. Their primary activity must all be as a response from impressions. These, by frequent repetition and reassociation arrive at a point of decision which accounts for reason, judgment and will.

Will this hypothesis meet all the postulates? Let us see how it explains an answer to love, will, emotion, the subconscious mind and hypnotism, which seem to be the greatest bones of contention.

What is love? What makes us behave as we do? "Back of all living things," says Freud, "there is an energetic drive, to accomplish certain ends, which brings about a certain tension within the individual until gratification." I hear you ask, "from whence comes this drive?" It emanates from that energy referred to, early in this paper, in explanation of the genesis of life. It finds its origin in the freeing of energy in the early carbon atom disturbance, incident to reproduction.

Freud speaks of this as self-love, while some one elsewhere, refers to it as libido, meaning desire. "Whatever we term it," says Karl Menninger, "it is the primitive stream of energy."

"As life progressively advances this stream divides," again says Menninger, "desire for others than self, comes in evidence." So, the libido of sex becomes manifest.

The original energy life stream or the libido of self-sustenance, which represents the self-love of Freud, wields the entire urge of life in its beginning, but at a later period, we are told by Menninger, that the divided branch very frequently holds the dictatorial hand.

Freud, in his psycho-analysis, is frequently misunderstood and misquoted, which makes him the victim of much unjust criticism, in that he is accused of vulgarizing life.

Now as to love, in its latest model of 1930: It is this same libido dressed up in Sunday clothes. It is that divisional branch of the original stream of energy, which has lived for at least three thousand years, under a regime of art, music and poetry, evangelists of love. These constitute a guidance and education in a suppression of desires and an exaltation of the sublime. So, this libido, when floundering in the mire of exotic love, and sustained by the embellishments of an idealism, drifts into a chaotic interpretation and misapprehension of life's performances that breeds trouble. Idealistic love, then, is our cherished libido for the sublime in the opposite sex. It is a fleeting phantom, holding that substantially important position of attracting the sexes, to continue the race. Congenial, orthodox, monogamic mating, does not rightfully come under a paper of this character, but holds a proper place under a moralistic regime.

Will, the weather-vane of responses to life's impressions, represents the determination, resulting from the sum-total of brain-cell reaction, at a given time. Those shownig more "will-power" than others merely have more obsessed routings. Let us keep in mind that many of our most definitely profound sidetrackers are characterized by their "will-power."

Emotion is a negative libido. It represents that definite self love of Freud, modified by sublime impressions from without.

The sub-conscious mind: There is none. What is spoken of as the sub-conscious mind, merely represents those brain-cell responses to impressions from without, or that have been associated within during a period of semi-consciousness and subsequently recalled from their submerged existence. Frequently the act is mistaken for an unrecognized performance of synthetic thought, completely initiated within the mind itself. This must be positively erroneous.

Hypnotism puzzles many. It merely represents concentrated impressive performance by the hypnotist, so as to direct unusual impressions by the way of desired routings. However, much of life is potentially activated under this influence.

Very little do we recognize to what a large degree the business conscience of the country depends upon a directing of hypnotic influence. Observe the Stock Exchange, when a king dies, or a man of influence broadcasts an opinion. Mr. Hoover's word of assurance, that "business was safe" became a supporting column to our financial structure during the panicky days of the winter. A word from Ford or Edison thrills the nation. One man will proclaim a community totally penniless when a talkfest will follow and carry away \$100,000 on worthless securities.

Able physicians may conscientiously labor and sweat without recompense while an ignorant but audacious bombastic, fortified by the hypnotic influences of broadcasting, is able to extract three prices for unscientifically prescribed drugs from a credulous bunch of hysteric radio listeners.

All impressions must originally come from without or from associations within. All impressions, associated within, must primarily come from without.

Does this theory explain mental aberrations? Let us test them. The mystic, the eccentric, the spirit medium, the hypnotic subject, the ascetic, the hysteric, the religious fanatic, the drug addict and alcoholic inebriate are frequently designated as those in the twilight zone. These should not be termed insane but journeymen on a temporary side-track, most

of whom may be restored to the main track, if not too completely obsessed and adherent to their side-track associations.

We must recall that all impressions and perceptions, at least of a major type, must maintain a particular and selected routing. These will at all times carry along their relative associated impressions. To follow other than this systematic order, chaos must reign and such is what happens in the aberrations. Impressions break over their insulations and lose themselves in the jungles of cross puzzle routings.

In the normal impression routings, thousands of qualifying related impressions must be drawn into the current and carried along to supply man's manifold mental visions. Likewise, selected tracks are used for orderly direction to nerve terminals. In case of aberrations, the confusion arises, not from a sick mind or diseased mentality, but from some interference with the normal tracking, that causes side-tracking and detouring, thereby associating irrelative impressions.

One can readily vision how these associations may become criss-crossed when considering the multiplicity of impressions with one given thought. One hears a fire bell. Some such as follows shoots across the perspective of his mental vision. (I use the term mental because we are acquainted with the term) "Whose house?" "Is it mine?" "Wonder how it caught?" "Are the children off the street?" "Wonder if they are insured?" "Why do the crowds rush to a fire?" "Where will they live now?" And many more. These are all associated impressions, connected and reconnected many times before. So it is little wonder then that short circuits and detours are made.

The point I wish to make is that it is not a faulty or diseased mind but a detour or side-tracking of energy impressions or responses taking on unrelated associations.

This holds good with the completely confused or helpless insane. I was called to see what my psychiatric friends, I believe, would term a precox. She was near the menopause. As I entered, I ad-

dressed her, "How are you Mrs. S.?" "I do not know you," she promptly retorted, and began singing, "Nearer My God to Thee," adding with disgust "Oh Hell, I can't sing," then with an intelligent beam in her face, she said, "You know Abe Lincoln and I were making hay when King George came along," with a drowning spit on the floor, saying, "Bring me a drink, I'm burning up on inside," then sang some more.

This is a familiar example. Her impressions were clear and responses unbroken but routings on a by-way and associations remote and unrelated.

While the above are simple equations and the more aggravated illusions, hallucinations and delusions are found only in institutions yet all must respond to like postulates.

Time forbids the discussion further of this greatest of all fascinating subjects, so will close with a short summary.

First, there is neither mind nor subconscious mind. What we have pleased to call mind merely represents brain cell-responses to impressions as transmuted to them by B-energy. The subconscious mind merely represents a sensitization of the brain-cells, in their response at a semiconscious interval and later revived from its submerged associations. Intelligence is man's responsive contact with the world. Mind does not become sick or diseased. Mental aberrations are side-tracks of B-energy in transit.

Personality, of which so much is being talked, is misleading in its present interpretation. Menninger's wonderfully delightful and highly instructive book, *The Mind*, is timely and should be in the hands of every doctor, yet this paper must take issue with his views on personality. Some people truly are queer. Some seem especially adapted in given lines. These are found in progeny of parents who, in some way, have placed impressive activity upon the cells in that particular determination and the cells of the child respond to the requirement. Repetition of act and response to libido complete the picture. Personality does not exist as a faculty.

Is the hypothesis logical and construc-

tive? It is logical because it is thinkable in terms that are familiar to man's intelligence. It is constructive because it will simplify the classification of mental diseases. It should emblazon the path of the psycho-analyst. It will iron out many of the knotty diagnoses for the men in general medicine and last but not least, as child values are humanity's most sublime and precious asset, it will promote a guidance of infant intellect along a routing to its most advantageous culmination.

For nearly a third of a century, our schools and society have been drifting under a theory of living that, in its ultimate results, is undermining the very foundation of man's responsible relation to society. I refer to the attempted development of initiative in the child, as advocated by John Dewey, now Professor Emeritus of Columbia.

The devotees of this doctrine would have one believe that in some remote corner of mind's keep-sake box there is a mental faculty ready for unfoldment, and by a little encouragement it will expand and grow by its own momentum. The writer submits this thesis as proof of the fallacy of that unscientific theory.

All impressions must be originally derived from without. Quality of responses will depend upon the character of the brain as furnished by its progenitor, plus. Brain, like other tissues, reacts to demands placed upon it and thereby becomes manifest in the progeny.

Infant capacity, therefore, represents the degree of ability that its brain cells possess in responding to impressions, and as delegated to them by their progenitor. This must finally be modified by repetition and libido. Mind (?) is a response, ever in the making but with its basic design largely laid during the first eight years of life. The first two years are of major importance.

Child development, piloted by modern psychological theories, at present advocates encouragement for the expansion of one's normal self. The child is made to seek his own impressions with little or no restraint, discipline is deplored, tantrums are acceptable, pleasure is made the goal, responsibility is not as-

sumed and much of life's mental architecture is so designed that a complete reversal is required at maturity. Initiative becomes a license and the inferior complex a doting slave to some remorseful habit.

In contradistinction, the theory of this paper teaches that mind merely represents a series of responses. Every impression is a part of that intellect. The more exalted the impressions, the more sublime is the so-called mind. The more the child is guided in a dignified manner, the more ennobled will be his intellect. Society's mutual association requires a respect for authority. Then discipline must be a systematic regimen of the infant's mental menu. Temperamentals must be schooled and tantrums eliminated without a purchase price. Poise, which may be tintured with pleasure, should be the goal. Duty and responsibility must be the paramount force that anchors them to society and life.

Every infant's experience and the impressions received must be a part of its future mentality. When properly directed it will exalt the sanctuary of the home, strengthen the bulwarks of government and weave a social fabric to be attained in no other way.

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Coronary Thrombosis

H. T. JONES, M.D., Lawrence

Read before the Douglas County Medical Society, May 1, 1930.

Coronary Thrombosis as a clinical entity has only been recognized for about the past fifteen years, and the greater amount of knowledge concerning it has been assembled by practicing clinicians and in post-mortem findings.

For many years isolated cases of rupture of the heart, aneurysm of the ventricles and occlusion of the coronary arteries have been found at autopsy, but only considered interesting as pathological processes and as not having clinical value, as it was considered impossible to recognize these conditions before death.

Sir William Osler¹ speaks of coronary thrombosis being found at autopsy but did not diagnose it before death. Sir James Mackenzie² does not mention it in his last works on "Angina Pectoris,"

published in 1923, so it is apparent that he did not recognize it clinically.

Krehl³, 1901, and Huchard⁴, 1899, called attention to the frequency of coronary thrombosis, ruptured heart and aneurysm of the ventricle in autopsies after death from angina pectoris, but did not recognize the condition during life. Dock⁵ in 1896 made the diagnosis and reported a case of coronary thrombosis, the correctness of the diagnosis being proven at autopsy.

The first satisfactory clinical reports of coronary thrombosis were published by Obratzow and Straschesko⁶ in 1910. They established the triad of symptoms now recognized as caused by coronary thrombosis; severe lasting retro-sternal pains, dyspnea and orthopnea and finally gastralgia. They also called attention to many of the features recognized as important findings; gallop rhythm, Cheyne-Stokes respiration, pericardial friction rub, distant heart sounds, pale cyanosis and mural-thrombosis.

In the past fifteen years American physicians have added much to our knowledge of this condition. First among these is J. B. Herrick⁷ who started publications about it in 1912, and since 1918 much has been published by S. A. Levine⁸. It was not until 1925 that coronary thrombosis was considered as a specific problem in England. A most important help in the diagnosis was made by F. M. Smith⁹ while he was working with J. B. Herrick when he found that certain electrocardiographic changes were fairly characteristic of the acute stages of this condition.

ETIOLOGICAL FACTORS

There is no one specific disease that is in any way a causative factor in coronary thrombosis, nor is there any indication that focal infections play any part, nor is there to date any indication that this condition has been brought about by any acute infection. Fever and leucocytosis follow the initial stage and do not precede the attack.

It is frequently an end result of angina pectoris and nearly all histories of this condition mention previous attacks of angina pectoris.

Diabetes is not a causative factor al-

though diabetics do have coronary thrombosis. About twenty per cent of 145 cases had a glycosuria, but the death rate and ages of this twenty per cent were so close to the total cases that it was considered that the diabetes was not a causative factor.

Hypertension and arteriosclerosis is the most common factor in the development of this condition but this is also true in angina pectoris. Syphilis has not been found to be a causative factor.

Heredity seems to play an important part in the etiology of this condition, also the inherited characteristic type or build of the patient. The typical patient is a well set-up person, somewhat overweight, generally of more than average physical strength who has enjoyed unusual good health. The condition is rare in the thin people.

Coronary thrombosis occurs in the later years of life, the average being 57 to 58 years. The largest number of cases occur between 60 and 69 years, next 50 and 59 years and over ninety per cent of all cases occur between 40 and 70 years of age. The sex ratio is three males to one female.

The typical attack of coronary thrombosis occurs in a patient with a history of previous angina pectoris attacks, but unlike the angina attacks it is not precipitated by effort or exertion, but frequently occurs while he is quiet. Yet the history often reveals unusual physical effort a short time previous to the attack.

When the attack does occur the patient is quickly aware that something terrible is happening; he knows that this is different from any of his previous attacks, and if he survives, he can always remember the date and hour of the catastrophe. Death is often instant, and, as coronor, I have seen several cases which were undoubtedly due to this cause. If the patient survives the initial shock, we learn that he was stricken with a severe pain in the chest, or sometimes in the upper abdomen. The pain is constricting or squeezing in character and may radiate to the arm or throat, as in angina pectoris. The patient may collapse or become unconscious, but more often has

a sense of extreme weakness. There is often vomiting at the onset of the attack, and this, with the general feeling of distress and abdominal pains, often causes the condition to be called acute indigestion. The diagnosis of a death from acute indigestion in an elderly patient is more than likely wrong and should be coronary thrombosis.

If seen within an hour after the beginning of the attack, the patient presents the picture of suffering extreme pain and seems to be in shock; he is pale and the skin is moist and cold and he has an ashen gray color; his pulse will be of small volume and rapid and there is usually a fall in the blood-pressure, which is the opposite to that found in angina-pectoris where the pulse rate remains the same and there is liable to be a rise in the blood-pressure. At times the pulse and blood-pressure do not change for a day or more. Sometimes the picture is one of edema of the lungs and moist rales are heard at the base of the lungs. Often later the liver becomes enlarged and tender from congestion. Early in the attack the upper abdomen has a board-like rigidity, simulating the perforation of a gastric or duodenal ulcer or an acute pancreatitis or gallstone.

Upon examination of the heart, the weakness of the sounds at the apex is the most striking abnormality. In my experience the most striking symptom is the intolerable pain and anxiety, requiring from one-half to one grain of morphine to even quiet the patient, not relieving but merely making the pain bearable. After twenty-four hours the pain subsides in severity, a slight fever, about 100° F., and a leucocytosis of 15,000 W. with eighty per cent of polynuclears develops.

Some authors lay great stress upon the development of a pericardial friction rub after a few days. Personally I have never heard one, possibly because I did not examine closely enough, or failed to recognize it if it were present, probably losing it in the basal rales due to edema of the lungs.

After a few days the fever and leucocytosis subside and the patient feels and

looks perfectly well. Even under these favorable circumstances, the outlook is grave and death can come very suddenly.

In order to understand what is taking place we must recall the pathological changes due to thrombosis. That part of the ventricle which was supplied by the thrombosed coronary artery has become infarcted. The necrosis may extend outward and involve the pericardium, and if this happens to be on the anterior surface, a pericardial friction rub will be heard, but if it involves the posterior wall, we will not hear the friction rub. If the interventricular septum is involved, various degrees of heart block may develop from the damage to the conductive tissue, and if the degeneration from the infarcted tissue moves inward, an endocarditis will develop and a mural clot form over the necrosed tissue.

As the coronary arteries are not end arteries, an attempt at repair is made by anastomosis, and new blood vessels are formed. The necrotic tissue may soften and the ventricle rupture with instant death, or the repair may be sufficient and scar tissue form and recovery be complete, or the repair may be weak and an aneurysm form; or from the mural clot emboli may be carried by the circulation to any part of the body, especially the legs or to the brain, kidneys or lungs. The greatest danger from rupture or embolism is during the second week.

SUMMARY

Angina pectoris generally precedes attacks of coronary thrombosis, but in some instances no angina had been had nor is there any evidence of any important preexisting disease.

Coronary thrombosis frequently develops in longstanding mild diabetics, but as the age incidence is the same in diabetics as in non-diabetics, it seems that the diabetics merely indicate the type of individual who would develop coronary disease rather than that diabetes had any causative relation to it.

Hypertension was present in the great majority of cases, but some patients are known to have had normal blood-pressure before the attack. Arteriosclerosis

was a very variable finding, in some it was limited to the coronary arteries.

Syphilis has been found to be a very rare cause of coronary thrombosis, and other infectious diseases seem to have very little etiological significance.

Hereditary factors were found to be most important, especially in those patients having coronary thrombosis at an early age. Possibly as a part of the hereditary factor there seems to be a certain distinct physical type of individual more apt to develop this disease. The well built and strong individual, somewhat overweight, whose limbs, especially the forearms, are round instead of flat. He has generally been quite active physically, either in sports or work.

The average age is about 58 years. The sex ratio about 3 males to 1 female. The disproportion in the sex distribution is not easily explained, but brings up the possible relation of physical effort and tobacco.

The typical clinical picture of coronary thrombosis was described. In addition there are certain atypical features that are easily overlooked and which are important in making a diagnosis. The pain may vary from a slight discomfort in the chest to the most terrific agony and vary in location from the upper abdomen to the upper sternum, or occasionally the attack may be entirely painless, or the picture may resemble an acute surgical upper abdomen.

Fever and leucocytosis as a rule develop early, but a few rare exceptions to this have been reported. The temperature must be taken rectally, as, owing to the dyspnea, we cannot rely upon the mouth readings. The important features upon examination were the appearance of shock, the distant heart sounds, gallop rhythm, the development of various irregularities in the rhythm of the heart, occasionally a pericardial friction rub, rales in the lungs, and sometimes engorgement of the liver. Certain changes in the electrocardiograms were found to be invaluable as aids in diagnosis, both during the early days and also the later weeks following the attack.

The urine frequently contains sugar and evidence of renal damage as albu-

min and casts. At times there is marked oliguria or a suppression of urine. These findings are often transient.

The important conditions that at times have to be considered in differential diagnosis are acute surgical condition of the abdomen, angina pectoris, pneumonia, diabetic acidosis, and, finally, so-called myocarditis. The proper diagnosis is sometimes difficult.

The prognosis in individual cases is most unsatisfactory. In general, about fifty per cent make an immediate recovery. No single feature seems to be reliable as indicative of a good or poor prognosis. Apparently mild cases occasionally die and very severe ones recover. Slight differences in the mortality are found when certain factors were analyzed such as age, sex, the development of pericarditis and auricular fibrillation. Ventricular tachycardia and heart block seem to have a greater than average of mortalities.

The question of treatment for the present must be based on theoretical grounds as there is no data available to compare the end results. The acute and rapid character of the disease often makes our deductions as to therapy fallacious, because many drugs are given in a short time and it is difficult to appraise the proper value of any single one. The proper understanding of the pathological process going on during coronary thrombosis will help to some extent in rationalizing the therapy.

THE BLOOD SUPPLY OF THE HEART

The right coronary artery in the typical average heart supplies the entire right ventricle with the exception of the left third of the anterior wall. Besides this, its left ventricular branches supply the right half of the posterior wall of the left ventricle, and a small strip of the interventricular septum. The left coronary artery, on the other hand, supplies the whole remaining part of the left ventricle, the small left anterior portion of the right ventricle not supplied by the right coronary artery, and a small anterior strip of the interventricular septum. The areas of junction on the posterior surface of the left ventricle and on the anterior of the right ventricle

are supplies by both vessels. Thus the intervening portion of the interventricular septum is supplied by branches from the right posterior descending branch and the left anterior descending branch. (From the blood supply of the heart, Louis Gross and Paul Hoeber, N. Y., 1921.)

A careful pathological study of 46 cases by S. A. Levine revealed some interesting correlations with the clinical features. It was found that a mural clot sometimes formed in the right as well as in the left ventricle as the result of a thrombus of the left coronary artery. This happened when the interventricular septum was involved. There were two painless cases in which the right coronary artery was thrombosed. In nine cases rupture of the ventricle occurred. The most frequent artery involved was the left descending coronary, and the favorite site of the thrombosis formation was about two c.m. below the bifurcation with the left circumflex coronary artery.

CASE REPORTS

My interest in this condition is in part due to the fact that in the last four years I have had four patients who were not only patients but also very close friends die from coronary thrombosis. The two cases that I am reviewing were among these and I am using them as their records are over a longer period and more complete.

J. W. H., age 59 had suffered from slight angina attacks for several years, to ward off these attacks he walked so slowly that his friends would not take the time to walk down town or on the street with him. Examinations made yearly from March, 1921, to August, 1928, show an average blood pressure of 150 systolic and 95 diastolic and the urine negative at each examination, except that in August, 1928, the urine showed a trace of albumin and there were many hyaline casts. At the examination in August, 1928, the blood pressure was 150 S. and 95 D. the pulse 68 per minute and the volume good. No valvular lesions nor irregularity of rhythm were observed.

More from my personal knowledge of

him and from the slight changes that had taken place in his physical condition over the years of my examinations, and not from the findings of the last examination, I advised him that his death was liable to be sudden and that it would be well to prepare for such an end.

October 30, 1928, at 5 a. m. I was called to see him. I learned that he was awakened at 2 a. m. with a sense of constriction of the chest, orthopnea, gastric distress and was unable to stay in his bed. He drank several glasses of hot water with soda before he called me but did not get any relief. When I arrived he was downstairs reclining in a chair. He had a pale ashen appearance and was pulseless. Before any treatment could be administered he died.

Autopsy: A large well built muscular man, overweight but not grossly fat. Nothing significantly pathological was found except in the heart. The heart was small for his size and had an excess of fat present. In the left ventricle on the posterior wall an area of scar tissue about four by two c. m. was found but not sharply defined from the normal musculature. Upon dissection both coronary arteries were found to be sclerotic, and a fresh thrombus in the left coronary artery. The endocardium and valves of the heart were normal. With the exception of a few yellowish plaques in the aorta it was elastic and free from sclerosis, nor was there any sclerosis of the mouths of the coronary arteries.

Microscopic report: A section through the posterior wall of the heart in the scarred region showed diffuse masses of connective tissue surrounding a bundle of heart muscle which was badly degenerated. There was no sharply defined area such as would be expected if this area had been the result of an infarct, rather there was a diffuse fibrosis.

A section through the left coronary artery showed great thickening of the wall of the artery with fibrous connective tissue. There was no calcification but there were numerous cholesterol slits. At one side a mass of connective tissue projected into the lumen of the vessel and

the lumen itself was occupied by a red thrombus.

A section through the circumflex branch of the left coronary artery showed the same thickening of the sub-intimal layer with connective tissue and the lumen was almost completely filled with an organized thrombus which was canalized. The small remaining lumen was also filled with a fresh clot. I was unable to get any history of when this damage to the heart muscle, which had been repaired, occurred.

W. W. B., age 54, May 30, 1929, after attending the races in Kansas City and eating a hearty evening meal was suddenly attacked about 10 p. m. with a severe constricting pain in the chest, gastric distress, vomiting, dyspnea and orthopnea. He drank two glasses of hot water and soda before calling me. A hypodermic of morphine gr. $\frac{1}{4}$ at 10:50 and another at 11:05 were necessary to give him any relief. His skin was ashen gray and the sweat poured out, and he was thrashing about, unable to stay up or down. His pulse was 110 per minute, irregular and his heart sounds barely audible over the apex of the heart. The next day his blood pressure was 90 systolic and 70 diastolic, while for the past four years his systolic was always from 160 to 180 and his diastolic never below 100. His improvement for the next few days was satisfactory and except for being extremely nervous, restless and very anxious about his condition he appeared fairly normal, although he had a temperature of from 100° to 101° F., and his blood pressure was below 120 systolic. He seemed on the road to recovery when on the afternoon of June 12, while his nurse was off duty he got up and took a tub bath, he died suddenly at 9 p. m.

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TUBERCULOSIS ABSTRACTS

Early European statistics, based largely on studies of groups suspected of having tuberculosis and living in populous cities, created the impression that all adults and nearly all children reacted positively to the tuberculin test. For that reason, the value of the test was unjustly discounted. Infection is not so prevalent in this country, especially among children, and since the tuberculin reaction is a very simple measure and furnishes a base line in the diagnosis of early tuberculosis, its value is being re-established. Charles Hendee Smith, from whose paper, "Tuberculin Skin Reactions," the following abstracts are derived, pleads for a more consistent use of the test, and at the same time emphasizes the need for greater precision in making and interpreting the test.

TUBERCULIN SKIN REACTIONS

Tissues which have once been sensitized by living tubercle bacilli develop the power to react to tuberculin. A positive tuberculin reaction means that the tubercle bacillus has lived and grown in the body. Koch introduced the general, or subcutaneous tuberculin reaction in 1890. In 1907, Pirquet developed the cutaneous scratch test, and the same year Wolff-Eisner and Calmette described the conjunctival test, while Moro gave us the percutaneous or innunction test. About a year later, Mantoux introduced the intracutaneous test, and shortly after that Hamburger and Monti used the hypodermic, or "Stich" method. The object of each of these tests is to bring tuberculin into contact with the deeper epidermal cells and, therefore, the intracutaneous and "Stich" tests may be expected to be more accurate than the Pirquet and Moro tests.

PIRQUET TEST UNRELIABLE

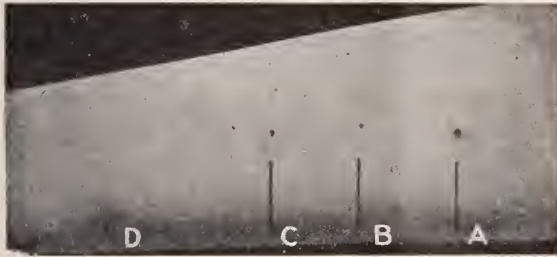
Because of the simplicity of the technique, the Pirquet test has gained popularity and has been used in many countries as a routine procedure. But it has

distinct disadvantages. If the scratch is too deep, the subsequent swelling may, to an untrained observer, resemble a positive reaction. A greater disadvantage is the uncertainty of the test because the tuberculin may not be kept in contact with the cells of the deeper layer of the skin long enough to excite the specific response. Many children fail to react on the first test, yet show a positive reaction when retested a few days later.

Mantoux reaction was adopted in the hope of finding a more accurate test. Immediately, it was found that many patients reacted definitely to the Mantoux test and failed to react to the Pirquet, although two of the latter tests were always done. This difference persisted year after year and at about the same rate; i. e., the Mantoux test giving about twice as many positive reactions as the Pirquet. For several years, both tests were performed on all children, but the Pirquet was finally dropped as a waste of time because of its uncertainty.

CAREFUL TECHNIQUE ESSENTIAL

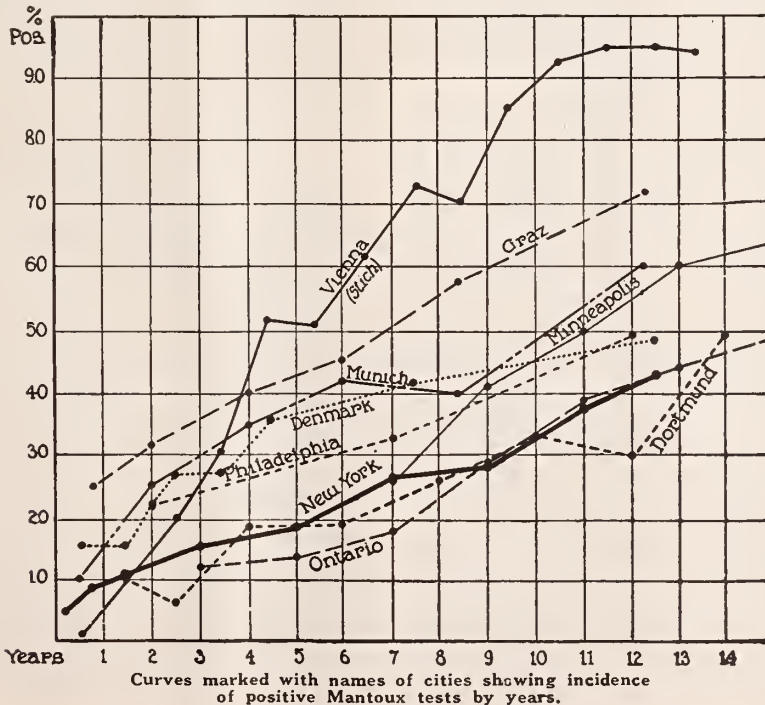
After trying various dilutions, Smith found that 1:1,000 is the most satisfactory, stronger solutions (1:200, 1:100, or 1:10) being used if necessary to retest, though these stronger solutions should never be used for the first test as sloughing may result. Making up and keeping the solution is not difficult, but the usual precautions must be strictly observed and errors of technique must be guarded against. For example, a needle, or syringe that has been used for tuberculin should never be used for the control nor for a Schick test, as tuberculin may remain active after boiling several hours and cause a reaction. Acute illness, espe-



Pirquet Reactions and Control
 A—Pirquet positive, B—Control
 C—Pirquet negative, D—Mantoux

This is not due to the raising of the sensitivity by the first test, for if two tests are made at the same time, one may fail while the other reacts sharply.

The unreliability of the Pirquet test, says Smith, became manifest to those in the Children's Medical Division at Bellevue Hospital about ten years ago. The



cially if there is high fever, may suppress the reaction. Severe tuberculosis, such as general miliary tuberculosis or a wasting, chronic disease, may obscure the reaction. The tuberculin must not be too old nor contaminated with bacteria or molds.

PIRQUET AND MANTOUX TESTS COMPARED

As a means of comparing the reliability of the Pirquet with the Mantoux test, 3,112 children (ranging in age from birth to 13 years) were given two Pirquet tests at the same time that the Mantoux was given. Seven and eight tenths per cent reacted positively to the Pirquet test, while 16.5 per cent responded to the Mantoux. This confirms the opinion of others that the Pirquet test is unreliable and that epidemiologist studies based on the Pirquet test are, for that reason, open to criticism. Smith has gathered and compared graphically the tuberculin test results of various groups of children in American and European cities. All of these inscribe so characteristic a curve or slope that it is quite possible to calculate the incidence of positive reactors at given ages in a given place. It is interesting that the curves for Vienna and Graz are distinctly higher than for other European cities and that all the curves of American cities are of about the same incidence. Not more than 40 to 50 per cent in the large American cities harbor the bacillus at puberty.

It must be remembered, concludes Smith, that "the army of the tuberculous is recruited from those infected in childhood" and "phthisis is the last verse of a song the first of which was sung in the cradle." These infected children, then, who carry tubercle bacilli in their bronchial nodes or elsewhere, are the ones who need early, correct diagnosis. The Mantoux test provides the means of making it. It should be used on every child who is underweight, anemic or languid or who has an unexplained irregular fever. These children with "tuberculous infection," so-called, have true incipient tuberculosis, latent or active. This disease is generally in lymphatic tissue, where it is easily encapsulated and where scar tissue does no great harm. Under intelligent, watchful care

they usually do well. When the disease has involved more important structures, such as the lungs, bones or meninges, the damage is greater, the cure is more difficult or impossible, and the diagnosis has been made too late.—Tuberculin Skin Reactions, Charles Hendee Smith, Am. Jour. of Dis. of Children, Dec., 1929, Vol. 38.

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The Action of Vitamin D

Viosterol administered to animals over long periods in doses 100 times greater than the minimum antirachitic level showed no effect on general appearance, growth, reproduction, or resistance to respiratory infections. An over-dosage ten times greater was just perceptibly harmful, 4,000 times overdosage definitely injurious, and 40,000 times overdosage strongly toxic. Apparently the harmfulness may be modified by other dietary factors. Recent studies have made it clearer that vitamin D controls calcification of the skeleton by dissolution and deposition of the bone salts. The mineral content of the bones is the resultant of these two actions. Calcium and phosphorus must be present in the diet in sufficient amounts and in appropriate relationship to each other before proper bone growth or calcification can occur. No amount of vitamin can correct an absolute lack of bone-building salts. (J.A.M.A., May 10, '30.)

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Use of Thyroid in Obesity

The use of thyroid in obesity should always be controlled by a previous basal metabolism test. If this is normal or subnormal, it is safe for a physician to use thyroid. The best practice is to start with small doses of desiccated thyroid (Thyroideum, U.S.P.) gradually increasing. The small dose would be approximately 0.33 Gm. (½ grain) twice a day. The physician must keep a sharp lookout for fast pulse, nervousness or other symptoms resulting from thyroid stimulation. An obese person should not expect reduction by thyroid unless his diet is restricted, and when dietary restrictions are followed thyroid is not needed as frequently. (J.A.M.A., May 31, '30.)

THE JOURNAL

of the

Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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TAKE YOUR CHOICE

It has never been the policy of the Society to espouse the cause of any political party or faction.

It has never attempted to control or influence the political preferences or prejudices of its members, and the Journal, as the official organ of the Society, has endeavored to maintain a consistently neutral attitude toward the candidates who were seeking the votes of the people, except in an occasional instance when one or more of the candidates were known to be hostile to all efforts of the medical profession to conserve the health of the people and advance the science of medicine. In instances of that kind it is reasonable to presume that one of our profession will hold himself under less obligation to the political party with which he is affiliated than to the promotion of the health and happiness of the people.

In a few weeks the voters in each political party will be called upon to express their choice of candidates for the various state offices. Of the principal candidates for governor, this being normally a Republican state, the attitude

of Mr. Reed, the present incumbent, and Mr. Haucke, his opponent in the primary, is of most concern to us. Without definite assurances from either of them we are left to appraise their possible value to us in our efforts to advance the science of medicine, by a study of past performances.

During the campaign of two years ago our Society was very much interested in securing the passage by the legislature of the Basic Science Law. Candidates for seats in the legislature were interviewed and a sufficient number of those elected had pledged their support for the bill to insure its adoption. Although some members of the committee were led to believe Mr. Reed was not antagonistic to the bill, he made no definite promise to support it. The bill was recommended by the Committee on Health and Hygiene to which it was referred and was given a place on the calendar, but as the end of the session approached other bills were advanced, leaving the basic science bill further and further behind until it finally died on the calendar.

A good many explanations and excuses were given. Naturally there had been very active opposition by the chiropractors and osteopaths and the most plausible explanation to be heard was to the effect that many of the legislators who were pledged to support the bill became alarmed at the opposition and asked that the bill be buried on the calendar. Ordinarily one would be justified in the conclusion that Governor Reed could not be held in any way responsible for that, but there seemed to be a current opinion, outside the legislature at least, that the Governor's organization was so complete and so efficient that all of the bills he favored and only those he favored were permitted to pass. Whether there was any foundation in fact for such an opinion is now of less importance than the

fact that it was accepted by many of the members of our profession as true and the Governor held responsible for the failure of the bill to come to a vote. At any rate there seems to be in the minds of many of our men an idea that the Governor could have secured the passage of our bill if he had cared to do so, and since he did not care to do so he should be considered as opposed to progress in scientific medicine. Whether these opinions are justified or not there has been no apparent effort on the part of the Governor to change them and no evidence that he is in any way concerned about the attitude of the medical profession toward his candidacy for reelection.

For some reason, whether justifiable or not, the Governor's name is coupled with that of the Attorney General as being responsible for the indifference and inactivity in prosecuting the Brinkley case. It seems to be the prevailing opinion among members of the Society that a little show of interest by the Governor in this form of law enforcement might have encouraged more activity in the office of the Attorney General.

While there is no positive evidence that Governor Reed is hostile to medical progress, the indifference he has shown during his term as governor suggests that he would be of little value to us in furthering the purposes of scientific medicine.

We have no record of Mr. Hauke's past performances since the basic science bill failed to come to a vote, but he was reported to us as being in favor of it. It is understood that Judge Hamilton, attorney for our defense board, is one of his most active and influential supporters. It seems likely, therefore, that through Judge Hamilton's influence we can reasonably expect Mr. Hauke's cooperation in our efforts to better safe-

guard the health of the people. The opposition to Governor Reed seems to be very bitter and it is being predicted that if he is nominated his opponents will to a large extent support the Democratic nominee. With this possibility in mind we have also to consider the candidates for nomination by the Democratic party. Mr. Bowman offers us no encouragement. Two years ago we received the following report from the Anderson County member of our state wide campaign committee: "Bowman has been in the legislature twice and always supported the irregulars in everything they asked for and always opposed public health measures."

If then the contest should lie between Mr. Reed and Mr. Bowman in the final election it seems that our choice would have to be made between indifference and active opposition.

Up to this time we have no information as to Mr. Woodring's attitude toward our plans and purposes.

At the last annual meeting of the Society there was considerable criticism of the Attorney General for his inertia in the Brinkley matter and he will probably not have very many enthusiastic supporters among the doctors of the State in his candidacy for a position in the Supreme Court. Putting the most charitable constriction upon his apparent lack of interest in the Brinkley case, the least one can say is that he is not much impressed with the importance of enforcing the laws governing the practice of the healing art in this state. To the medical profession the enforcement of those laws enacted for the protection of the people against preventable diseases, and those laws enacted for the protection of the ill and afflicted against ignorant and unqualified practitioners of the healing art, are of even more importance than the enforcement of the prohibitory laws.

There is really nothing in the Attorney General's official record to commend him to the members of the medical profession for a position in the Supreme Court.

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CHIPS

Under normal conditions ingested bacteria are destroyed in the small intestines. When such bacteria are found in the feces it is probable that the bactericidal power of the intestinal tract has been weakened. Arnold and Nedzel reported to the Chicago Pathological Society the results of some experiments to determine the factors involved, *Archives of Pathology*, April. They found that when their experiments were conducted in a warm temperature room the ingested bacteria were destroyed less readily and less completely. Any interference with the self disinfecting power of the small intestines would favor the development of typhoid carriers. Patients who have recovered from typhoid fever who show an absence of typhoid bacilli in the feces may have small lesions along the biliary tract that eliminate these bacteria into the duodenum where under normal conditions they are destroyed, but during the hot summer months this disinfecting power in the intestine is weakened and these bacilli pass on into the large intestine. Diarrheas caused by food poisoning and by polluted water interfere with the disinfection of the intestine and aid in spreading infection.

There has been some speculation as to the effect roentgen therapy in pregnant women may have upon the foetus. Goldstein recently reported some observations in such cases to the Philadelphia Pediatric Society, *American Journal of Diseases of Children*, March, 1930. Histories were obtained of 107 women receiving either radium therapy or roentgen irradiation during gestation. Seventy-six children were born to these 107 women. Of these children 39 were unhealthy and 37 were healthy. In 10 of the 39 unhealthy children the causes of the existing disturbances or defects were attributed to other causes than the irradiation therapy. In the remaining 29

no other cause was found. Twenty-one of these exhibited mental or nervous disturbances and 8 presented other abnormalities of function or structure. In the group of 21 children with cerebral defects there were 17 with microcephaly. Since microcephaly occurs but once in about ten thousand births in the general population, the occurrence of seventeen cases in 87 births after post conception pelvic irradiation is suggestive at least.

Since several substances are now available for immunization against diphtheria, the report of Schwartz and Janney on the comparative value of these various agents, published in *The American Journal of Diseases of Children* in March, 1930, may be of some interest to the profession. The conclusions drawn from their studies are that among the agents so far used for immunization toxoid is superior to all others because it gives a greater percentage of immunes and because it does not cause serum sensitization. The Schick test is regarded as essential in any immunizing program. In a tabulation of their comparative study the per cent of immunes by toxoid is given as 98 while the next highest is 86, resulting from the use of the New York State Board of Health toxin-antitoxin.

In some studies concerning the factors involved in blood clotting Kugelmoss and his co-workers have suggested some points that may prove of considerable value. Their preliminary report, which appears in the March number of the *American Journal of Diseases of Children*, presents a method of determining tendencies to hemorrhage or to thrombosis. The proportionate amounts of the various factors involved in clotting are determined and from these the index of the clotting function of the blood is determined. It was found that the normal index is 0.5 plus or minus 0.2. Values above 1 indicate a marked tendency to clot while values below 0.2 indicate a marked tendency to bleed. Perhaps more important was the finding that both the tendency to hemorrhage and the tendency to thrombosis, in so far as the blood factors are concerned, may be largely controlled by diet. Illustrative

cases are cited in which such results seem to have been secured.

An interesting point was raised in a recent malpractice suit tried in England. A surgeon was sued on the claim that he had failed to remove a hemostat forcep which had been used in an operation eight years previously. Under ordinary circumstances the claim was outlawed after six years, but it was claimed that inasmuch as the forcep was not removed until two years previous to the action the statute of limitations did not begin to run until that time. No decision on the point was given, but the trial proceeded which suggests that the point was well taken.

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Proceedings of the Annual Meeting

(Concluded in this Issue)

MEETING OF HOUSE OF DELEGATES

Thursday, May 8th

The House of Delegates met in the Florentine Room, lobby floor, Hotel Jayhawk, Thursday, May 8th at 8:00 a. m. Meeting called to order by the president, Dr. E. S. Edgerton.

Roll call showed that there were 50 delegates present including the officers and councillors.

The following officers were elected:

President-elect, Dr. E. C. Duncan, Fredonia.

Vice President, Dr. J. B. Carter, Wilson.

Treasurer, Dr. Geo. M. Gray, Kansas City.

Delegates to American Medical Association:

Term 1 year, Dr. L. F. Barney, Kansas City.

Term 2 years, Dr. E. S. Edgerton, Wichita.

Term 3 years, Dr. J. F. Hassig, Kansas City.

Councillors:

First District, Dr. L. W. Shannon, Hiawatha.

Second District, Dr. L. B. Spake, Kansas City.

Seventh District, Dr. C. C. Stillman, Morganville.

Eighth District, Dr. Alfred O'Donnell, Ellsworth.

Ninth District (unexpired term), Dr. H. O. Hardesty, Jennings.

STANDING OF COUNCIL

Dist.	Councillor	Term Expires
First	—Dr. L. W. Shannon, Hiawatha	.....1933
Second	—Dr. L. B. Spake, Kansas City	.....1933
Third	—Dr. P. S. Mitchell, Iola	.....1931
Fourth	—Dr. O. P. Davis, Topeka	.....1932
Fifth	—Dr. J. T. Axtell, Newton	.....1932
Sixth	—Dr. J. F. Gsell, Wichita	.....1931
Seventh	—Dr. C. C. Stillman, Morganville	.....1933
Eighth	—Dr. Alfred O'Donnell, Ellsworth	.....1933
Ninth	—Dr. H. O. Hardesty, Jennings	.....1932
Tenth	—Dr. I. B. Parker, Hill City	.....1931
Eleventh	—Dr. C. H. Ewing, Larned	.....1932
Twelfth	—Dr. W. F. Fee, Meade	.....1931

The following resolution was presented by Dr. H. L. Chambers:

Whereas, The preparation for the practice of medicine is long, exacting, and expensive, and

Whereas, Experience has shown that money loaned to students under proper circumstances and safeguards is practically always repaid, and

Whereas, The Kansas Medical Society has some money that might be safely used in a revolving loan fund, therefore, be it resolved

1. That a commission of three be appointed by the president to consider the need for and advisability of such a fund,

2. To report its findings, arguments and conclusions to the annual meeting in 1931, and

3. If the idea is approved, to present a plan worked out in considerable detail under which it may be put in effective operation.

From the Douglas County Medical Society through its delegate, Dr. H. L. Chambers.

Dr. Chambers moved the adoption of the resolution, which was regularly seconded and carried.

The president, Dr. E. S. Edgerton appointed the following to serve on the committee and to report at the next annual meeting in 1931: Dr. Geo. M. Gray, Dr. L. G. Allen and Dr. H. L. Chambers.

Dr. Lewis G. Allen read the following resolution:

Whereas, It has recently become the practice for electrical and instrument dealers and manufacturers to rent or sell physio-therapy and light apparatus to the lay public without the prescription or advice of physicians, and

Whereas, It is a well known medical

fact that improper usage of any of the physio-therapy and light apparatus may have deleterious or injurious effects and results upon the users of the same, and

Whereas, The use of physio-therapy and light apparatus by lay patients without the prescription and advice of physicians encourages and corresponds to self-drugging and self-treatment, and deleterious consequences to the health of those so doing, therefore, be it

Resolved, By The House of Delegates of the Kansas Medical Society, in regular session that this society for the reasons above set forth, deprecates the renting or sale of the aforementioned physio-therapy and light apparatus to patients except when the same are prescribed and advised by physicians, and it is further

Resolved, That a copy of these resolutions be sent to the House of Delegates of the American Medical Association and that the delegates of this society to the American Medical Association be and are hereby directed and instructed to present and endeavor to secure the passage of similar resolutions to these at the meeting of the American Medical Association in Detroit in June, 1930. And it is further

Resolved, That a copy of these resolutions be published with the proceedings of this meeting in the Journal of the Kansas Medical Society, and sent, with a request for publication, to the Journal of the American Medical Association, American Journal of Physical Therapy, Chicago, and to such other publications as are deemed advisable by the secretary of this society.

Resolution adopted on motion by Dr. Allen, regularly seconded and carried.

The proposed amendments of the by-laws, which were presented at the last meeting of the House of Delegates, Tuesday night, May 6th were unanimously adopted as presented by Dr. W. E. McVey.

SECRETARY'S EXPENSE ACCOUNT

January 24 to May 5, 1930, and Salary	
Stenographer's Salary	\$ 300.00
Stamps	72.00
Long Dist. Telephone Calls and Telegrams...	15.80
Miscellaneous	8.99
Secretary's Salary for past year—	
May 1, 1929 to May 1, 1930.....	1,000.00
Total	\$1,396.79

The amount was allowed on motion by Dr. H. E. McCarthy, which was regularly seconded and carried.

Meeting adjourned.

JOINT MEETING OF COUNTY SECRETARIES AND COUNCIL

This meeting was held Tuesday, May 7, at 12:15 p. m., in the Green Room, second floor, Hotel Jayhawk. Dr. E. S. Edgerton was the presiding officer.

The following were present: W. F. Barnstorf, Pratt; Earle G. Brown, Topeka; H. L. Clarke, La Cygne; G. W. Davis, Ottawa; I. H. Dillon, Wellington; F. L. DePew, Howard; E. C. Duncan, Fredonia; H. E. Haskins, Kingman; T. E. Horner, Atchison; S. J. Schwaup, Osborne; H. A. West, Yates Center; J. T. Axtell, Newton; O. P. Davis, Topeka; E. S. Edgerton, Wichita; C. H. Ewing, Larned; J. F. Gsell, Wichita; Mr. J. D. M. Hamilton, Topeka; J. F. Hassig, Kansas City; W. E. McVey, Topeka; P. S. Mitchell, Iola; Alfred O'Donnell, Ellsworth; I. B. Parker, Hill City; C. W. Reynolds, Holton; L. B. Spake, Kansas City.

A complimentary luncheon was served, which has been the custom for several years. This was one of the best meetings of its kind that has ever been held by our society.

Interesting talks for the good of the state and county societies were made by the following: W. E. McVey, G. W. Davis; Earle G. Brown, W. F. Barnstorf, Mr. J. D. M. Hamilton, P. S. Mitchell, E. C. Duncan, O. P. Davis, C. C. Stillman, J. T. Axtell, H. L. Clarke, I. H. Dillon.

Meeting adjourned at 2:00 p. m.

COUNCIL MEETING

The newly organized council met May 8 at 10:15 a. m. in the Florentine Room, lobby floor of the Hotel Jayhawk. The meeting was called to order by the president, Dr. E. S. Edgerton.

The following members were present: Dr. C. W. Reynolds, Holton; Dr. L. B. Spake, Kansas City; Dr. P. S. Mitchell, Iola; Dr. O. P. Davis, Topeka; Dr. J. T. Axtell, Newton; Dr. J. F. Gsell, Wichita; Dr. C. C. Stillman, Morganville; Dr. Al-

fred O'Donnell, Ellsworth; Dr. I. B. Parker, Hill City; Dr. C. H. Ewing, Larned; Dr. W. F. Fee, Meade; Dr. E. S. Edgerton, Wichita; Dr. Geo. M. Gray, Kansas City; Dr. J. F. Hassig, Kansas City.

By a unanimous vote the meeting place for the 1931 annual meeting was decided to be held at Manhattan, a three day session, Tuesday, Wednesday and Thursday, May 5, 6 and 7, 1931.

On motion by Dr. Davis it was decided that Dr. Millis would be allowed to show his "jake" paralysis demonstration.

Dr. W. E. McVey, editor of the Journal, made the following report for the year:

ACCOUNT OF EDITOR JOURNAL WITH THE KANSAS MEDICAL SOCIETY May 1, 1929, to May 1, 1930	
Receipts	
Advertising	\$4,858.49
Sales and Subscriptions	280.67
Kansas Medical Society	2,000.00
Other sources	153.74
	\$7,297.90
Expenditures	
Printing Journal	\$2,592.30
Stock and Stationery	767.50
Salaries and wages	2,520.00
Postage	173.73
Office rent	300.00
Electrotypes	249.86
Supplies for Committee on History..	64.30
Miscellaneous	52.11
	\$6,719.80
Balance on hand May 1, 1930	\$ 578.10

I regret that my report shows a considerable reduction in advertising receipts, but for various reasons several pages of advertising contracts were not renewed this year. There are always ups and downs in the advertising business which follow very closely the waves of commercial and industrial prosperity, and considering the slump in other kinds of business we have not done so badly. Reckoned on a business basis the Journal has made a net profit of practically 20 per cent.

From the reports of paid-up membership so far received at the Journal office it is evident that we shall need to make a strenuous campaign for subscriptions. Two years ago we made an arrangement with the State Tuberculosis Association by which we received from them 100 paid subscriptions. Up to date 28 of those for whom subscriptions were

paid by the association have become members of the society. So that this arrangement has not only enabled us to keep up our circulation but has brought twenty-eight members into the society and still acts as a feeder for the society. Some years ago solicitation of delinquent members brought us something over fifty subscriptions and many of these subscribers later renewed their membership in the society.

Of course I should like to make the Journal a more satisfactory business proposition for the society and shall exert every possible effort to do so, although it is now one of the least expensive of the state journals of approximately the same size and circulation.

But I should like more than that to make the Journal more attractive and more valuable to the members of the society. It has always been my ambition to produce a medical journal of which I myself might be proud, but it has also always been my misfortune to be poor and to find that manna from Heaven always fell in some other neighborhood. After twenty-eight years of effort with this and other medical publications I feel that I know something of what a journal of this kind ought to be.

It has seemed to be the consensus of opinion that the editors of state journals should not attempt editorial discussion of scientific subjects but should confine themselves to the discussion of the profession's economic affairs. If I suggest that this idea has occasioned a loss to the members of the society I trust you will understand that I am not assuming any superior talent for myself or other editors of state journals but simply calling attention to the fact that there is available to them a very large amount of current medical literature in the exchanges that come to their desks and from which they could prepare comprehensive reviews of the latest information on any medical subject. It means of course a very large amount of work, time for which only one can find who has an independent income or one whose salary is adequate for the maintenance of a fairly comfortable existence.

There is also the question if the mem-

bers of the society who presumably pay two dollars a year for the Journal are not entitled to receive all the Journal the amount of two dollars per capita can be made to produce, the value estimated in quality as well as size. This is a question, however, that has been delegated to you as members of the council to determine and I take it that your policy is one which best fits in with the size and financial status of the society. Whether by increasing the scope of influence of the Journal by making it more largely a disseminator of advanced medical knowledge as well as a forum for the exchange of professional opinions and experiences would justify the council in a change of policy or justify an editor in sacrificing his professional income to that end are not to be decided off hand.

The active practice of medicine and the efficient editorial management of even a medical journal are occupations that are incompatible. Each is subject to its emergencies but the emergencies of the former must always take precedence, even to the sacrifice of the immediate needs of the latter. Nevertheless, the details of a publication of this kind must be taken care of as they arise for they are all and always in the nature of emergencies.

The editor who undertakes to develop a higher type of medical journalism on a part time basis must in the first place so arrange his business that there will be no uncertain and indefinite division of his time; and in the second place he should be permitted to realize upon any increment that may result from his increased effort as an encouragement to his energy if for no other reason.

If these suggestions appeal to you in any way I would further suggest that they be considered as a problem the solution of which is possible to a small society with limited resources. It is still my ambition that while I am permitted to serve you as editor I may be able to make of this Journal one that will not only be a credit to the Kansas Medical Society but also one of which I may myself be proud.

W. E. McVEY, Editor.

Report accepted and filed on motion

by Dr. P. S. Mitchell, regularly seconded and carried.

Dr. C. C. Stillman was elected to succeed Dr. C. S. Kenney on the Defense Board for a term of one year. Dr. W. F. Fee was elected for a term of three years.

Standing of Defense Board

Dr. C. C. Stillman, term expires 1931.

Dr. O. P. Davis, term expires 1932.

Dr. W. F. Fee, term expires 1933.

Dr. O. P. Davis made a motion that the Bureau of Public Relations be allowed to spend a sum not to exceed \$2,000 for the ensuing year which was regularly seconded and carried.

Meeting adjourned at 11:30 a. m.

GENERAL SESSION

The scientific session convened at 9:30 a. m. in the Convention Hall of the Hotel Jayhawk, Topeka, Kansas, May 6, 1930, to listen to the previously announced subjects and the discussions thereof as presented by the members of the society.

PROGRAM

Tuesday, May 6

"President's Address"—Dr. E. S. Edgerton, Wichita.

"Neurology Report"—Dr. E. E. Liggett, Oswego. Was read by Dr. O. E. Stephenson.

"The Treatment and Management of Tetanus"—Dr. L. W. Shannon, Hiawatha.

Discussion opened by Dr. W. G. Emery, Hiawatha.

"The County Health Officer"—Dr. W. K. Johnson, Garnett.

Discussion opened by Dr. C. H. Kinnaman, Topeka.

"Impressions of Student Health Services"—Dr. Ralph C. Canuteson, Lawrence.

Discussion opened by Dr. Noble P. Sherwood, Lawrence.

"Gastric and Duodenal Ulcer"—Dr. L. O. Nordstrom, Salina.

Discussion opened by Dr. Alfred O'Donnell, Ellsworth.

"Stasis of Caecum and Ascending Colon"—Dr. L. D. Johnson, Chanute.

Discussion opened by Dr. P. S. Mitchell, Iola.

"Acute Intestinal Obstruction"—Dr. R. D. Russell, Dodge City.

Discussion opened by Dr. W. S. Grisell, Ransom.

"The Diagnosis of Acute Osteomyelitis"—Dr. E. E. Morrison, Great Bend.

Discussion opened by Dr. E. D. Ebright, Wichita.

"Mental Disturbances Associated with Puerperium"—Dr. Wm. C. Menninger, Topeka.

Discussion opened by Dr. M. L. Perry, Topeka.

Wednesday, May 7—Guest Day

"Fractures"—Dr. John R. Nilsson, Omaha.

Introduced by Dr. C. C. Stillman, Morganville.

"The Diagnosis and Treatment of Lesions of the Cranial Nerves"—Dr. Walter E. Dandy, Baltimore.

Introduced by Dr. C. C. Nesselrode, Kansas City.

"Repair of Injuries of Hand"—Dr. Allen B. Kanavel, Chicago.

Introduced by Dr. J. T. Axtell, Newton.

"Medical Ethics From a Modern Point of View"—Dr. Morris Fishbein, Chicago.

Introduced by Dr. F. A. Carmichael, Osawatomie.

"Problems of Cancer"—Dr. Joseph Colt Bloodgood, Baltimore.

Introduced by Dr. Earle G. Brown, Topeka.

Thursday, May 8

"Hemorrhoid Operation Under Local Anesthetic"—Dr. Claude C. Tucker, Wichita.

Discussion opened by Dr. A. P. Gearhart, Wichita.

"The Present Status of Women in Medicine"—Dr. Elvenor Ernest, Topeka.

Discussion opened by Dr. Maud DeLand, Topeka.

"Treatment of Bronchial Asthma"—Dr. Allen Olsen, Wichita.

Discussion opened by Dr. P. M. Krall, Kansas City.

"Diabetes"—Dr. B. P. Smith, Neodesha.

Discussion opened by Dr. P. M. Krall,

Kansas City.

"Tuberculosis of Mesenteric Lymph Glands"—Dr. Milton B. Miller, Topeka.

Discussion opened by Dr. W. F. Bowen, Topeka.

"Radiation Treatment of Non-Malignant Lesions of Female Pelvis"—Dr. L. G. Allen, Kansas City, Kansas.

Discussion opened by Dr. J. A. H. Webb, Wichita.

"Peri-Tonsillar Infections"—Dr. L. B. Spake, Kansas City.

Discussion opened by Dr. F. C. Boggs, Topeka.

"Jake Paralysis Clinic"—Dr. J. P. Kaster and Dr. M. L. Perry, Topeka.

"Blood Sedimentation Test in Obstetrics and Gynecology"—Dr. L. A. Calkins, University of Kansas School of Medicine, Rosedale.

"Hip Joint Disease"—Dr. W. F. Schroeder, Newton.

Discussion opened by Dr. R. S. Haury, Newton.

"The Surgical Female Abdomen"—Dr. L. V. Dawson, Ottawa.

Discussion opened by Dr. H. M. Glover, Newton.

Dr. C. C. Stillman made a motion which was regularly seconded and unanimously carried that a vote of thanks be extended to Drs. Kaster and Perry for the interesting "Jake" Clinic, which they presented.

The registration was 511, which was the largest in the history of the society. There was a big attendance at each session and the attention at all times was unusually good. Every essayist on the program was present. Taking everything into consideration, this was the best annual meeting the society has ever held, and much of the credit is due to the excellent work of the local committee on arrangements.

J. F. HASSIG, Secretary.

COMMITTEE ON SCIENTIFIC WORK

Program submitted as report of Scientific Committee.

Accepted by motion of Dr. Geo. M. Gray, regularly seconded and carried.

The following proposed amendment to the Constitution which was presented to

the Council at its annual meeting in January and published twice in the Journal of the society:

Resolved, That Section 1 of Article X of the Constitution be amended to read as follows:

Article X

Section 1. The term of office of the president shall be for one year and shall begin on the first day of January following his election. The term of office of the president-elect shall be from the date of his election until the first day of January following. The terms of office of the vice president and the treasurer shall be for one year. The terms of office of the secretary and of the councillors shall be for three years. All of these officers shall serve until their successors are elected and installed.

Moved by Dr. O. P. Davis that that amendment be adopted and regularly seconded and carried unanimously.

The following resolutions pertaining to the by-laws were presented by Dr. W. E. McVey:

Resolved, That Section 1 of Chapter 111 of the by-laws be amended by striking out the words "one of" and changing vice presidents to read vice president in the second sentence of said section.

Resolved, That Section 9 of Chapter IV be amended by striking out all of the last sentence of said section.

Resolved, That Section 2 of Chapter VI be amended by striking out the words "one of" and changing vice presidents to read vice president, in the last sentence of said section.

Resolved, That Chapter IX of the by-laws be amended to read as follows:

CHAPTER IX—COMMITTEES

Section 1. The standing committees shall be as follows:

A committee on scientific work

A committee on public policy and legislation

A committee on public health and education

A committee on Medical School.

A committee on Stormont Medical Library

A committee on necrology

A committee on history

A committee on arrangements

The Bureau of Public Relations

The Executive Committee of the Council

Committee on Hospital Survey.

These committees shall be appointed by the president except as hereinafter otherwise provided; and the members thereof shall serve for one year or until their successors are appointed except as hereinafter otherwise provided.

Section 2. The committee on scientific work shall consist of three members, of which the secretary shall be one, and shall determine the character and scope of the scientific proceedings of the society for each session, subject to the instructions of the House of Delegates. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

Section 3. The committee on public policy and legislation shall consist of three members and the president and secretary. Under the direction of the House of Delegates it shall represent the society in securing and enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, state and national affairs and elections.

Section 4. The committee on public health and education shall be composed of five members and shall work under the direction of this society and its council to spread among the lay public a knowledge of preventive medicine and especially a knowledge of cancer and the importance of an early diagnosis. It shall, in so far as possible, work in conjunction with the committee of the American Medical Association of like name.

Section 5. The committee on Medical School shall be composed of five members. It shall be the duty of this committee to secure the data available con-

cerning the activities, progress and needs of the University of Kansas School of Medicine and make an annual report of the same to this society; it shall also endeavor to establish and maintain a close relationship between the said school of medicine and this society.

Section 6. The committee on Stormont Medical Library shall be composed of three members at least one of whom shall be a resident of Topeka. It shall be the duty of this committee to formulate and recommend to the state librarian, rules for the use of, and lists for the purchase of medical books, charts and magazines for the Stormont Medical Library, at such time as accumulated funds may justify, in accordance with the provisions of Section 75-2525 and Section 75-2529 of the revised statutes of Kansas.

Section 7. The committee on necrology shall be composed of three members whose duty it shall be to collect all available data concerning those members of the society and other physicians who have died in this state during the year and make a report at the annual meeting of the society.

Section 8. The committee on history shall be composed of three members whose appointment shall be permanent; provided that vacancies occasioned by death, resignation or removal may be filled by the president. It shall be the duty of this committee to collect, preserve and compile all available data concerning the history of this society and the history of medicine in Kansas, and to make annual reports of their findings to the society.

Section 9. The committee on arrangements shall be appointed by the component society of the county in which the annual session is to be held. It shall provide suitable accommodations for the meeting places of the society, of the council and of the house of delegates, and of their respective committees, and shall have general charge of all the arrangements. Its chairman shall report an outline of the arrangements to the secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

Section 10. Bureau of Public Relations. The president, secretary and treasurer of the society, the chairman of the Defense Board, the chairman of the Committee on Public Policy and Legislation, the chairman of the Committee on Public Health and Education, the chairman of the Committee on Medical School and the editor of the Journal shall constitute the Bureau of Public Relations, whose duty it shall be to co-ordinate the functions of the various committees and departments represented in the bureau in carrying out the purposes of the society. If and when deemed expedient the Bureau of Public Relations shall appoint a secretary who shall, under the directions of the members of the bureau, conduct such publicity campaigns as may further the purposes of the society, assist in securing desirable legislation and in the prosecution of violators of the laws now on the statute books governing the practice of the healing art, and perform such other duties as may be directed by the society.

Section 11. The Executive Committee of the Council shall be composed of the president, secretary and treasurer of the society, who are ex-officio members of the council, and the chairman of the Defense Board. This committee shall have authority to act in the interim between regular meetings of the council upon all matters which would ordinarily require called or special meetings of the council.

Section 12. The Committee on Hospital Survey shall be composed of three members appointed by the president. It shall be the duty of this committee to make surveys of the hospitals of the state and co-operate in this and other ways with the committee of the same name of the American Medical Association.

The above amendment was layed over to the next meeting of the House of Delegates for final consideration.

The following resolutions were presented by Dr. Earle G. Brown:

RESOLUTION ON ORGANIZATION OF FULL-TIME COUNTY HEALTH DEPARTMENTS

Whereas, Adequate public health administration is the duty of official government agencies, and

Whereas, The experience of many states has shown that the full-time county health department is the ideal unit for efficient public health protection, and

Whereas, In recent years the state board of health in co-operation with county boards of health and voluntary health agencies have organized full-time county health departments in several counties of the state and have demonstrated the value of this unit in the promotion and protection of the public health of the communities served,

Therefore, Be it Resolved, That the Kansas Medical Society approves the principles of the full-time county health department and recommend the establishment of these units as the most efficient and economical means of health protection.

RESOLUTION ON TOXIN ANTITOXIN

Whereas, at the 69th annual meeting of the Kansas Medical Society unanimous approval was given the use of toxin antitoxin as a preventive against diphtheria, and

Whereas, through county medical societies, city and county boards of health, in co-operation with the state board of health, more than 300,000 children in Kansas have been protected against diphtheria, and

Whereas, The value of toxin antitoxin as a preventive against diphtheria has been fully demonstrated,

Therefore, Be it Resolved, That the Kansas Medical Society heartily commend the efforts of the various county medical societies, the city and county boards of health and the state board of health in their efforts to eradicate diphtheria from the state, and

Be it Further Resolved, That the Kansas Medical Society recommends that all ethical measures be used in extending toxin antitoxin to all children in the state who have not received this preventive treatment.

Whereas, The state board of health will supply to individual physicians, printed statements relative to the prevention of the three major preventable diseases, namely diphtheria, smallpox and typhoid fever, and

Whereas, These statements will be supplied without charge to all physicians who request same.

Therefore, Be it Resolved, That the Kansas Medical Society endorse the use of these printed statements and urge members of the society to use same in correspondence with their clientele.

A motion was made by Dr. W. S. Lindsay that a committee of three be appointed by the president to draw up suitable resolutions and forward to the Kansas City Star expressing the appreciation of the Kansas Medical Society for the wonderful work of their special representative, Mr. A. B. MacDonald in the Brinkley matter.

Motion regularly seconded and carried unanimously.

Dr. Edgerton, president, appointed the following committee: Dr. O. P. Davis, Dr. W. S. Lindsay and Dr. W. F. Fee.

Dr. P. S. Mitchell presented a motion that the executive committee have full power to act in all cases of undesirable practitioners.

Motion regularly seconded and carried unanimously.

On motion by Dr. C. C. Stillman, meeting adjourned at 10:30 p. m.

R SOCIETIES

RUSH-NESS COUNTY SOCIETY

The Rush-Ness County Society met at Dr. Grisell's hospital at Ransom, Kansas, June 18, 1930, with Dr. W. Singleton presiding. There were eight doctors present and a guest, Mr. Henry Erni of Bison, Kansas, who is a medical student at Kansas University.

A number of communications were read and the regular business of the society taken care of. There was some discussion as to the holding of a public meeting this fall, but the matter was carried over for further discussion and the working out of details.

Dr. N. W. Robinson read a paper on "Hypertension," Dr. Singleton one on "A Phase of the High Cost of Illness," and Dr. Attwood, one on "Diabetes Mellitus," all of the papers were discussed in round table by each member present. Our society being small we find this a very effective way of maintaining the

active interest of our members.

Following the meeting a very delicious luncheon was provided by Dr. Grisell and served to us by the nurses of the hospital.

The Society will be guests of Dr. Blount at Burdett for the September meeting.

F. D. SMITH, M.D., Secretary.

WILSON COUNTY SOCIETY

The Wilson County Medical Society held their annual banquet at six p. m. Tuesday, June 3, at the Methodist Church at Fredonia. The doctors brought their wives and invited a number of outside guests. The meeting was called at this particular time in honor of Colonel George A. Skinner and Mrs. Skinner of Omaha, Neb. Colonel Skinner was making a trip through Oklahoma, Kansas, and Missouri and had arranged to talk to us that date. Doctor C. H. Dewey, president of the local society, acted as toast master and after calling upon the various members and guests for two minute talks, introduced Doctor E. C. Duncan who in turn introduced the speaker of the evening, Colonel Skinner, who spoke for forty-five minutes in a most entertaining manner. For thirty-five minutes his subject was reminiscences of the old army and the last ten minutes was devoted to a statement of the necessity for reasonable national preparedness.

A number of dentists were invited and among the guests present were: Doctor and Mrs. Paul E. Whiffen; Doctor and Mrs. H. J. Davies; Doctor Roy M. Matthews; Mr. and Mrs. Miles E. Canty; Mary Agnes Wiley, and Miss Josephine Sheedy of Fredonia; Mr. and Mrs. Paul E. Pinkston, Elk City; Doctors J. B. Blades and C. O. Shepard, Independence; Doctor and Mrs. Moody and Doctor Bauerfield, of Neodesha; and Miss Hyde of Buffalo. The members present were: Doctor C. H. Dewey, of Buffalo; Doctor and Mrs. B. R. Riley, of Benedict; Doctor George W. Farrar, of Fall River; Doctor and Mrs. W. H. Addington of Altoona; Doctor and Mrs. J. W. McGuire; Doctor and Mrs. O. D. Sharpe, and Doctor and Mrs. P. B. Smith, of Neodesha. From Fredonia Doctor W. H.

Young; Doctor F. M. Wiley; Doctor and Mrs. A. C. Flack, and Doctor and Mrs. E. C. Duncan.

NOTES PICKED UP BY THE REPORTER

Colonel and Mrs. Skinner were guests of Doctor and Mrs. E. C. Duncan while in Fredonia.

It is rumored Doctor C. H. Dewey is soon to be married.

Doctor W. H. Young and Miss Josephine Sheedy of Fredonia were married in Fredonia June 3 and left for a two weeks' wedding trip.

Doctor E. C. Duncan and wife leave for Fort Snelling, Minn., early in July. Doctor Duncan is commanding officer of the 314th medical regiment which trains there.

Doctor Addington, although seventy-six years old, never misses a meeting of the society.

Doctor and Mrs. A. C. Flack leave in July for an extended motor trip.

E. C. DUNCAN, Secretary.

R

FRANKLIN COUNTY SOCIETY

The Franklin County Medical Society held its regular June session at the Kansas State Hospital, Osawatomie, dinner guests of Dr. F. A. Carmichael, superintendent of that institution, who is a member of our Society.

The program of the evening was led by Dr. M. J. Owens of Kansas City.

The subject was "The Significance of Pain in the Abdomen and its Evaluation in Diagnosis. Procedure and Prognosis."

Dr. Owens very kindly forwent the opportunity to present a long technical paper, but, instead, talked from the shoulder, giving us a practical talk on this very important subject.

"See your patient, look for signs, consider history, remote and immediate, see if the patient is profoundly ill." This was the key note sounded by the speaker.

If our society had ever expected that in Dr. Owens we might hope for a "Joshua" to succeed our departing "Moses" of the radio we were disappointed.

"Regard pain in the abdomen with such serious consideration that you may never prescribe medicines or therapeutic measures without seeing your patient."

In severe pain in epigastrium, look for three things, acute hemorrhagic pancreatitis, cholecystitis and perforations. Also coronary thrombosis being non-surgical and very fatal, interests the practitioner from the standpoint of prognosis.

The cardinal symptom of coronary sclerosis being shortness of breath aids the observer to differentiate for the family in time to give them some warning of the impending collapse.

Cyanosis should be regarded as pathognomonic of coronary thrombosis, and seldom if ever seen in other painful lesions of upper abdomen, barring possibly acute pleuropneumonia.

When seeing patient in great abdominal pain, get all the history you can. Consider decubitus, expression of face, character of respiration, pulse and temperature. Look to see if the patient is sick.

When possible get patient into proximity of surgical arrangements. When called to a patient suffering acute pain in the abdomen, look for scar. Stone from kidney, intussusception in youths, strangulated hernia, pedicle twist and ruptured ectopic may occur in abdomen from which appendix has been removed. Ruptured tubal pregnancy carries with it almost invariably its own signs—shock.

Dwelling somewhat at length, and reciting some past experiences, the speaker set out some, to most of us, rather revolutionary procedures, viz., that in surgery of the abdomen for the relief of ruptured ectopics, little effort, if any, should be made to remove extravasated blood. In his own cases he left it in the abdomen when he removed the detritus, and believes that convalescence is more certain and less eventful, by so doing.

Take a little more time in coming to conclusions where there is no scar and the pain is in the right lower quadrant. An appendicitis may safely go 24 hours, but perforation of the intestine, duodenum or rupture of gall bladder, better have immediate surgery.

Dr. Owens gave us a lecture, carrying his audience's interest along for more than an hour. He cited cases and case histories to illustrate the many practical points he desired to drive home.

Dr. F. A. Carmichael opened the discussion which was joined by many members present.

Dr. S. D. E. Woods, complimented the speaker on his lecture, stressing the thought in the minds of most men present, that a plain talk out of the experiences of the speaker was preferable to paper or formal essay, which in the very nature of it could be burdened with statistics.

The secretary notes with pleasure the tendency of medical speakers, generally to feature things that come near to the hearts of the general practitioner.

The next regular meeting of the society will be held at the Ottawa Country Club, Wednesday, July 30.

The program will be two papers by outside men. Puzzling problems in Infant Feeding by Dr. Gilke, and Acute Idiopathic Fever in Children, by Dr. Dwyer, both of Kansas City.

These will be followed by a 4-reel medical picture. At this meeting the Douglas, Anderson, Allen, Lyon, Osage, Coffey, Shawnee, Leavenworth and Miami County Societies will fraternize with our group.

The program of the day will open with an 18-hole and a 9-hole golf dinner match. Special effort will be made to match up some "three-somes" of lady players. The price of the dinner will be 85 cents, and players will be listed in three columns, according to handicaps, the winning column to get free suppers and the two losing columns to pay for a dinner and a half. Dr. L. V. Dawson will have charge of the medical golf tournament. Dinner will be served at 6:45 p. m.

It is hoped that the doctors and their wives of the counties bordering on Franklin will take a half day holiday and come and play in our back yard.

GEORGE W. DAVIS, Secretary.

—R—

DEATHS

Milton S. McGrew, Holton, Kansas, aged 63, died May 9, 1930, of cerebral embolism. He graduated from the Hahnemann Medical College, Chicago, in 1891. He was a member of the Society.

JUST TO REMIND YOU

If you change your address or if the Journal is not delivered to you regularly please send a card directed to The Journal of the Kansas Medical Society, 700 Kansas Avenue, Topeka, Kansas.

If you are threatened with a suit or a suit has been brought against you for malpractice, write to Dr. O. P. Davis, Chairman of Defense Board, 917 North Kansas Ave., Topeka, Kansas.

If you want to buy instruments, office supplies or equipment, drugs or chemicals, books, or anything else, look through the advertisements in the Journal and if you don't find what you want write the Journal office and an effort will be made to find it for you.

If you have neglected to pay your dues for 1930, write the secretary of your county society and send a check for the proper amount to him.

If you move from the county in which you hold membership into another county in which there is a county society you should present your card to the secretary of that county society and send a notice of your removal to the secretary of the State Society, Dr. J. F. Hassig, 804 Huron Building, Kansas City, Kansas.

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Students' Health Services in Universities

RALPH I. CANUTESON, M.D., Lawrence

Director Health Service, University of Kansas.

Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

Three-fourths of the papers on the program of the present meeting of the Kansas Medical Society deal with problems of diagnosis and treatment of disease. Probably ten per cent will deal with prevention of disease. This does not mean that prevention of disease is regarded more lightly than treatment, but that therapy must occupy the foreground until preventive medicine has made greater advances. Nor can the incidence of disease be reduced until the public is educated to the accepted and proved methods of disease prevention. No one can be enough of an optimist to predict a time when preventive medicine shall remove the need of diagnosis and treatment, but it is certain that there should and can be a marked decrease in the number of cases of contagious diseases and a considerable reduction in the so-called constitutional diseases.

Preventive medicine has developed slowly but progressively along with other advances in science. At the present time it occupies a rather broad field and is represented by various agencies from the individual physician up to and including the United States Public Health Service. Students' health services in universities and colleges is one of these agencies.

During the 17th and 18th centuries the attention given to health of young people was manifested by extensive programs of gymnastics.¹ Germany and the Scandinavian countries were early advocates of gymnasia, and in 1825 such methods of physical education were in use in this country. By 1860 all the leading colleges in the United States had gymnasia. The Rev. William A. Stearns of Amherst College is credited with being the first

to publicly voice an opinion that physical exercise alone did not fulfill health requirements. In 1859 Amherst College organized their Department of Physical Education and Hygiene. Vassar followed this lead in 1865. During this time the measurements of the individual were taken as the criterion of health.

By 1900 a feeling arose that student health work should include more than the development of big muscles. Attention was directed toward environment as a factor in health. Faculty committees took over administration of student health work and programs were made to include, as well as physical education and lectures in hygiene, care of illnesses, control of contagion and inspection of housing conditions. The move was in the right direction but the control was necessarily in the hands of untrained men and there was no uniformity of program. Ten or fifteen years later the faculty committee plan evolved into one in general use today which includes, in addition to the above methods, education in health measures.

The United States leads in the development of health services. Almost every college or university of any size has some provision for caring for the health of students either by college physicians or departments of health. In 1920 the American Student Health Association was formed with 53 charter members among which was the University of Kansas. At the present time there are one hundred members representing as many schools.

The purpose of student health work as generally stated is the production and maintenance of optimum health in college students. The latter involves also the matter of education and the formation of health habits which we hope will persist after the student leaves school. The methods by which such ends may be produced are: medical and physical ex-

aminations, dispensary and hospital services, physical education, practice and teaching of sanitation, health education and research in health problems.

In 1921 thirty-two of forty schools questioned² gave complete physical examinations to entering students. At the present time some schools require a statement of physical fitness from the family physician before a student is allowed to register. Such a practice is of little benefit because such examinations are not uniform, the average physician will not take time to do a complete physical examination, particularly if the patient presents no complaints, and the college has no permanent record of findings. In the age group of college undergraduates the incidence of pathological findings is lower than in a group of faculty members, for example, but the abnormalities can be corrected more often than in the older group.

Most health services provide dispensaries if nothing more. The dispensary is the first line of approach for the teaching of health habits. It is the place where the teaching can be most specialized—where there is personal contact with the student and where his individual defects can be discussed, together with means of correction. The habit of going to the dispensary in illness or when in need of health advice will persist after the student leaves college.

About two-thirds of the schools questioned have infirmaries in addition to dispensaries. Students living at home can be taken care of by their family but illnesses cannot properly be cared for in rooming houses where quarters are crowded, it is necessary to go out for meals and segregation of the sick cannot be accomplished. Hospitalization of even minor illnesses reduces the duration of disability. Proper control of contagion can be carried out only when a place for isolation is provided.

Physical education, one of the foundations of the present health services, has a definite place in the health program. Just as there has been a change in the methods of health administration in the past few years so has there been a change from the old type of physical

education to the present time which looks toward the correction of defects of the body and the development of a well-coordinated physical mechanism. The physical education departments and the health services must work in close cooperation, the one to provide the proper types of exercises to fit the individual and the other to determine what type of exercises the student needs and can tolerate.

One of the functions of a well-balanced health service is the inspection of rooming and eating houses. Usually such inspections are left to city officers. The congestion of rooming and eating houses near the average campus requires an unusual amount of attention to sanitary measures. Many students are away from home for the first time and although they may realize that certain boarding houses or cafeterias are not first class they often patronize them as a matter of convenience. In 73 schools questioned recently³ the number providing inspection of rooming and eating houses was about equal to the number that did not, although opinion was in favor of such inspection.

Health education is one of the important branches of student health work. The methods of education are by personal contact in the dispensary and hospital, by control of epidemics, by lectures and by health projects. The dispensary method reaches from half to two-thirds of the student body and is an ideal method of giving personal health education. Lectures on various phases of health are given in different schools by departments of physical education, physiology, biology or preventive medicine. Since 1910 Kansas has given a course in Hygiene required of all Freshmen, and there are several other courses offered by various departments.

The student body of the average college is an excellent group on which to study various health problems. Only a small percentage of health services are equipped to do much along the line of research but with the present trend toward standardization of procedures and records more information will be obtained.

HEALTH SERVICE AT THE UNIVERSITY OF
KANSAS

The Students' Health Service was introduced at the University of Kansas in 1907 and was represented by a physician and a health association maintained by an optional fee paid by students. Beginning in the fall of 1928 two full time physicians were employed. The present staff consists of two physicians, an intern who is on the rotating service at Bell Memorial Hospital at Kansas City, five graduate nurses, one of whom is an excellent *x*-ray technician, and a laboratory technician. The most favorable arrangement seems to be one physician per 1,000 students enrolled, unless physical examinations are done on all students each year when the staff must be doubled.

The service is self-supporting, that is, it is maintained entirely by fees paid by students. Each undergraduate student pays a semester fee of three dollars. In 73 schools questioned in a recent survey only 19 health services were self-supporting although 65 per cent charged health fees. The average fee was slightly over seven dollars per year. At Kansas in addition to the semester fee there is a small charge made for hospitalization beyond a three day period, for house calls and for *x*-rays so that the ones receiving more than average service carry the extra expense.

Services rendered are multiple. Each entering Freshman and Sophomore is given a complete physical examination during the first few days of school. The results of this examination are recorded on the examination record together with a history which includes history of illnesses, injuries and operations, vaccinations and inoculations, family history and measurements. A urinalysis is done on each student. Re-examinations or further laboratory work is done as indicated. The examination occupies from an hour to an hour and a half. At the end of the examination a summary of findings is recorded and the student advised of any defects. Each student is given a grade and this grade determines what type of physical exercise he shall take in the required gymnasium courses.

Examinations are done by the hospital staff with the aid of senior medical students from Rosedale and members of the Physical Education Department who do the measurements and orthopedic examination. All students enrolled in the Reserve Officers Training Corps are examined, and some are re-examined for summer camps. The record form used by the Health Service has this year been approved by the War Department.

A dispensary is maintained and is regularly open seven hours a day. Here consultations are offered, minor illnesses and surgical cases are treated, necessary examinations are made, laboratory and *x*-ray examinations are available and cases which cannot be treated with the facilities at hand or which need specialists attention are referred out.

The hospital accommodates twenty-two beds and has a make-shift operating room. Students who are seriously ill or who cannot be easily cared for in their rooming houses are advised to come to the hospital. Students are often hospitalized for minor illnesses but we feel that such methods will prevent more serious consequences. Emergency surgical and a few elective surgical cases are cared for in the hospital. Students have the privilege of calling in any physician who is a member of the American Medical Association. Whenever possible surgical cases are sent to their homes for operation. All cases of contagion occurring among the students are taken to the Students' Hospital because there is no city quarantine hospital. Even though the building is inadequate there has been no cross-infection within recent years. A student may stay in the hospital three days without charge but after that time a charge of one dollar per day is made.

At the present time there are no definite arrangements for inspection of rooming and eating houses, but a movement is on foot to provide for inspection of all rooming houses that will be on the approved list at the university. Health education is carried out through personal contact with patients in the dispensary and hospital. Lectures in hygiene are given to women of the Freshmen class by the woman physician on the staff of

the Health Service. Research has not been attempted beyond the study of records accumulated the past two years.

COMPARISON WITH OTHER SCHOOLS⁴

The following facts taken from surveys of a group of school health services show how Kansas compares with other schools. Kansas charges a yearly health fee of six dollars while the average is slightly above seven dollars. Including Kansas, 69 per cent have hospitals, 62 per cent provide night calls by the university physician, 26 per cent give special laboratory tests, 26 per cent include hospital care in the health fee, 26 per cent are supported entirely by students fees and 60 per cent have full time directors. Kansas does not agree with other services in that 17 per cent include consultations with specialists and major surgery for the health fee, 37 per cent give medical attention to the faculty and 51 per cent to employees, 48 per cent inspect rooming houses and 55 per cent inspect eating houses. These results show that there is a wide variation in services offered but that Kansas gives the essentials and for a moderate fee.

RESULTS OF EXAMINATIONS

Findings were tabulated on 963 Freshmen and Sophomore students examined in the fall of 1929. There were 552 men and 411 women. Nineteen per cent of each had definitely defective vision. Eight per cent of men and 9 per cent of women had bad tonsils. Two per cent of men and 1.7 per cent of women had abnormalities of the heart sufficient to modify their physical exercises. Only 0.8 per cent of men and 1.7 per cent of women had enlarged thyroids. It was surprising to find that two girls and one boy had thyroidectomies performed, one of them at age 14 years. Three and two tenths per cent of men and 1.7 per cent of the women had defective hearing and the majority of the cases were associated with previous otitis media. Eight tenths per cent of men and 1.7 per cent of women gave histories of recurrent attacks of appendicitis. Six tenths per cent of men and 0.5 per cent of women were called back for re-examination of the chest. No active cases of tuberculosis were found in this group,

although several cases are under observation at intervals of one or two months, and so far this year three active cases have been diagnosed. One case of acute infectious arthritis was found.

In a study on a series of 200 records of men examined in 1928 it was found that over 50 per cent gave histories of contagious diseases including measles, mumps, whooping cough and chicken pox. Seven per cent had small pox, 7 per cent diphtheria and 18 per cent scarlet fever. Small pox vaccinations had been given in 62 per cent, diphtheria toxin-antitoxin in 67 per cent and typhoid inoculations in 29.5 per cent. Forty-seven and five tenths per cent gave a history of frequent attacks of tonsillitis and 42 per cent of these had their tonsils removed. Of this group 3 per cent still had good-sized tonsils. A review of hospital cases showed that the percentage of tonsils returned after tonsillectomy was even higher, probably because the cases seen in the hospital were examined at a time when lymphoid tissue in the pharynx was inflamed and hyperplastic. It is interesting to note that the tonsils returned more often when tonsillectomy was done in childhood. Fifteen per cent gave a history of pneumonia in which pleurisy followed or accompanied in 8 per cent of the cases. Four per cent gave a history of idiopathic pleurisy. Nine per cent of these men reported attacks of appendicitis and only half of them had been operated. Thirty-six per cent gave a history of fracture of one or more bones.

The results of examination of this group showed that 40 per cent missed one or more of the letters on the 20-foot line of Snellen test type. Twelve and five tenths per cent had need of dental repair. Three per cent had enlarged thyroids. Taking into account a pulse rate over 100 with the patient at rest, 9.5 per cent had abnormalities of the cardio-vascular system. Five per cent had hernias or marked pulsation at the inguinal ring sufficient to eliminate them from strenuous athletics. Two per cent had varicoceles. The median age of this group of men was 18 years, the height 68 inches, the weight 140 pounds,

the pulse 80 and the blood pressure 100-120 systolic and 60-70 diastolic.

Of a group of women studied, 25 per cent had enlarged thyroids and 32 per cent gave a history of dysmenorrhea. The median age was slightly under 18 years, the height 63 inches, the weight between 110 and 120 pounds, the pulse 80-90 and the blood pressure 110-120 systolic and 70 diastolic.

DISPENSARY AND HOSPITAL REPORTS

During the school year 1928-29 there were 18,595 dispensary calls made by 2,791 students of whom one-third were women and two-thirds men. This 2,791 students represented nearly three-fourths of the student body that pay health fees. A total of 1,013 physical examinations were made during the year.

Diagnoses made in dispensary include 2,281 cases of common colds, 169 of influenza, which does not include the cases diagnosed in the hospital; 404 cases of skin disease among which were pityriasis rosea, psoriasis, herpes zoster, tinea cruris, epidermophytosis and furunculosis; 223 cases of disease of the gastrointestinal tract including 3 cases of peptic ulcer, 18 cases of hemorrhoids and 13 cases of appendicitis; 39 fractures; 250 sprains; 7 injuries of the semilunar cartilages of the knee; 14 cases of valvular disease of the heart and 37 cases of eyestrain. One hundred and twenty-five students came for health conferences. Eighty-nine were referred to specialists for treatment or examination. Small pox vaccinations were given to 127 and typhoid inoculations to 109. Three hundred and ninety-six had *x*-rays. Three thousand nine hundred and fourteen laboratory examinations were made.

The hospital record for 1928-29 reports 856 admissions for a total of 2,671 days and an average stay per patient of 3.1 days. Here also the common colds lead in frequency of diagnosis, 406 in number. Next in order was influenza with 175 cases. Only 2 cases this year. There were 5 cases of pneumonia, of which one complicated influenza. Aside from colds, there were eleven cases of contagion. Seven cases of infectious mononucleosis and 79 cases of Vincent's

angina were treated. Fifty-five operations were performed, of which 4 were appendectomies and 45 tonsillectomies. There was one case of malaria and one of encephalitis lethargica.

OBSERVATIONS

Following a vacation there is an increase in student illnesses. Most of the contagion can be traced to its origin and usually appears after students have been out of town on vacations or week-end trips.

Scholastic work seldom sends a student to the hospital, except perhaps in the cases of graduate students. It is the combination of scholastic work with strenuous social life or outside activities that is to blame for many cases of illness.

The incidence of illness is as great among men as among women. This includes common colds. A report made by a graduate student last year indicated that considering the proportion of men and women enrolled there were more men than women who visited the dispensary.

More complaints of eye strain come from individuals with slight refractive errors than from those with considerable error in one eye, or even in both eyes.

There are probably more cases of venereal disease among students than the dispensary records show. Because of the ruling that persons with venereal disease in a contagious stage be excluded from schools, students do not come to the Health Service when they suspect such a diagnosis, but go to physicians who will not report them to university authorities.

Health services are more than a convenience to students. There is an increasing tendency on the part of the university to consult the Health Service. Students having scholastic difficulties are often referred to the dispensary for physical examination. The Health Service passes on the eligibility of men for the Reserve Officers Training Corps. The Physical Education Department and the Health Service co-operate in placing men in physical exercise classes. Parents appreciate having a place at the

university where their sons and daughters can be taken care of in case of illness.

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2. The Nation's Health: Vol. iii No. 5, May, 1921.
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—R—

The County Health Officer

W. K. JOHNSON, M.D., Garnett

Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

In these days when all minds are struggling with the great problems of the large cities, and their masses of humanity in dire need of medical attention and sanitation, there exists, I think, a great opportunity for the medical profession to be of great benefit to the people of Kansas through the department of public health.

The county health officer was created in 1883 but no specific duties were then assigned; and it was not until 1885 when the State Board of Health was given power to regulate the duties of the health officer that the real reconstruction of the public sanitation began.

In 1927 the old laws were repealed and by another enactment, further authority was given to the health officer and to county commissioners.

To those who feel that the duties of the county health officer are inconsequential, and that he is a superfluous bit of machinery in the economics of the state, this bit of exposition will serve to illuminate the situation.

At the opening of the school term in the fall, the health officer is required to make a personal investigation of all the public schools in the county. He checks up on the school houses and grounds, as to their sanitary condition; a questionnaire of forty questions must be filed with the State Board of Health, and no school must be below a certain specified rating.

This sanitary rating may seem to be quite unnecessary until this fact is considered; that a school child between the ages of five and eighteen years spends one-half of its life in or about a school house and grounds; then the necessity of sanitation becomes apparent. Whether

it be your child or mine, it is best for both present and future generations that during these most susceptible years of its life it be protected as much as it is possible, if any Kansas youth is expected to attain the age when it can remedy for itself these sordid conditions.

With the intention to overcome unsanitary conditions, the health officer begins his journeys. He cannot avoid noticing that the conditions of the country school toilets are simply unspeakable. During the summer when the school house was vacant, nothing had been done to check the flies from carrying on their nefarious practice of spreading disease. He also notices that the odor of rancid urine can be smelled for rods; this is not at one school but at many.

This situation he attacks with vigor and soon more than a third of the districts rebuild their toilets upon specifications furnished by the State Department of Education. The long suffering health officer wonders how much of his admonition and council must be repeated the following season.

The heating problem next makes itself apparent. After finding that very few country schools have adequate arrangements for ventilation and distribution of heat, he burns the midnight oil preparing a simple and effective system for heating country schools. These plans are sent to the various school boards with the result that perhaps a few follow his suggestions, while in the other districts the poor children sit with their heads too warm and their feet chilling.

His attention is next called to the water supply. He discovers that most of the wells have loose board covers and that the wells go for years without being thoroughly cleaned and properly disinfected. The cracks between the boards allow the drip water from the pump to flow back into the well, washing with it the dirt from the children's shoes; the same shoes have been around the barn, the coal bins, the toilets and the manure piles, and thus the water becomes contaminated. The well is often situated so that the drainage from the coal bins and from the toilets flow into it. The county health officer must remedy all these dis-

astrously unsanitary conditions. The drainage must be corrected and all unhealthful conditions improved as much as possible.

The health officer shakes his head dubiously and hopes that in the course of a few years all of these conditions can be rated one hundred per cent on the questionnaire. Many of the school boards are not only unmindful of the situation but are ignorant of it. The health officer must carefully explain these matters to them and show them that the ends justify the means, for there is always contention regarding any change or any additional expense. The health officer must not only police the sanitation of these rural schools but he must protect the stranger within our gates.

It falls to him to examine hotels, restaurants, cafes, etc., regarding the conditions under which they operate. The milk supply must be inspected, the methods of delivery and service must be approved and reported on. Typhoid in this day and age is a disgrace and is inexorable. The wayside filling stations and the tourist camps and parks, where the itinerant pleasure seeker pauses to replenish the gas supply and the thermos bottle, must be inspected and the water supply approved. In fact, the same points of sanitation as required for the school must be required for the tourist park. In these days of hard surfaced roads and fast motors, one infected water supply can propagate a typhoid epidemic across half of the continent.

These situations must be realized and remedied by the ever-watchful and much-reproached health officer.

It can be readily seen that the position of county health officer is worthy of the best minds of the medical profession and that with the assistance and co-operation of the profession, in a few years the rural sanitation will be on a par with its city competitor, but it is for the profession to decide whether or not Kansas rural sanitation shall be improved through the aid and the co-operation of the county health officer.

And then there are the industrial camps, the inspection, policing and sanitation of which is also among the

duties of the health officer. I might also mention the baby clinics to be held, for the purpose of catching malformations and disease conditions in their incipency, while these conditions are most easily corrected. All of which makes toward a more healthful adult. Also the immunization of the pre-school child is another duty expected of the health officer, which protects our babies against epidemics to which they are almost sure to be exposed a few years hence. If this duty is properly attended to, every youngster will begin his school life with ten points of protection.

Added to these duties is the watchful care over the milk and water supply of each hamlet and municipality within the confines of your county.

Other duties can be mentoned, such as the supervision of streets, alleys, outdoor toilets, stagnant water holes, and many other disease breeding conditions. There is but one way to handle the county health office and that is to make it a full time unit with the same emoluments that go with the county superintendent, county attorney and any other county officer.

In conclusion I wish to say that in the county health officer the medical profession has an opportunity to be of much benefit to the several communities in which we live and receive therefor just and adequate compensation as the statute law requires.

DISCUSSION

C. H. KINNEMAN, M.D., Topeka

The Kansas legislature at the present time has enacted laws that make it possible for every county to have efficient health protection. The duties of the health officer are outlined and if he follows these instructions to the letter his time will be fully occupied and he will not have much time to devote to his private practice. As many boards of county commissioners, who are the county boards of health, have not learned that health protection pays large dividends in sickness and deaths prevented, if the health officer is active, it is time for the physicians of Kansas to start an educational program for the benefit of these men.

The practice of submitting bids for the office of health officer and appointing the lowest bidder is strictly against the law; but bids can be submitted for the county physician which may be a separate office from the county health officer.

All county medical societies should discourage this practice and the man appointed should accept the office only when a salary is paid that will permit him to devote the time necessary for filling one of the most important of county offices, the protection of the public health.

In this day and age, the part time health officer is unable to efficiently protect the community and the full time health unit is the solution of the problem.

Comparison of counties operating under part time health officers for two five-year periods shows that conditions regarding communicable diseases remain practically the same over each five years while under full time health officers comparisons show a distinct improvement in cases and deaths prevented over the previous period under part time health departments.

The part time health officers in many cases have devoted much time to the duties of this office for which they received scant remuneration and have cooperated with the Kansas State Board of Health in the prevention of epidemics of communicable diseases for which we express our appreciation of their efforts; but no physician should accept the office at this time without a salary comparable with the duties to be performed under our present laws.

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Psittacosis in Kansas

S. A. SANDOER, M.D. and

CLAY E. COBURN, M.D., Kansas City

Psittacosis is an acute infectious disease resulting from association with sick parrots, and characterized by septicemia, the typhoid type, and unusual signs in the lungs suggestive of pneumonia.

The conditions favoring the incidence of this disease in parrots are overcrowding, exposure, fouling of food or water in cages, which are liable to occur in the

commercial consignment of parrots. A long voyage proves fatal to fifty per cent of parrots.

The infectiousness of this disease may be appreciated from the fact that recently no less than eleven workers in the hygienic laboratory in Washington contracted psittacosis during its investigation. Within the last twelve months there have been reported a number of epidemics of this unusual disease in England, Germany, Argentine and the United States.

McClintock gives an illuminating description of an epidemic that occurred in this country.

"On March 2, 1917, during a period of intense cold, a large number of parrots arrived in Wilkes-Barre, Pennsylvania. They were on a circuit, and they had been long en route from the previous stopping place. They were exhibited for sale, grouped together in the open, in the basement of a large department store. Many of these parrots were ill when they arrived, appearing to be 'frozen', according to the store employees. They drooped, their wings were ruffled, mucus ran from their noses, and many had diarrhoea. A large number soon died. Great crowds came to see the parrots; forty-eight were sold and taken to homes, a number died, some recovered, some never appeared ill. The parrots were in the store forty-eight hours, and were then sent on. They showed some signs of illness in the town where they were exhibited previous to their arrival here. After leaving this city there was no further evidence of the epidemic. The acme must have occurred en route, and in the store.

"In about ten days the sick list of the store employees began to grow. At about the same time, many peculiar cases of illness appeared in the practices of physicians in Wilkes-Barre and the surrounding towns. The patients usually gave a clear history of contact with sick parrots, either at the store or at home.

"These cases were variously diagnosed as influenza, pneumonia, and often as typhoid fever. But in all, an element of uncertainty was strong. Many of the symptoms of one or all of these diseases

were present, but the grouping and degree of intensity of the different symptoms differed from those of any disease so far observed in this community. In a little while, the diagnosis of psittacosis was suggested by a clinician. Although certain cases fitted exactly the accepted symptom grouping of this disease as a whole, the clinical pictures in this epidemic varied more than in those epidemics previously described, and the mortality was distinctly lower; not above five per cent.

"In this epidemic the incubation period appeared to be about ten days. The duration of the disease varied from one to four weeks. Three groups of cases were easily differentiated. In all three, a terrific headache was a common symptom; this was associated with a most profound prostration. The pulse rate was not often above one hundred. The temperature curves were often irregular; most frequently they simulated those of typhoid fever. The leukocytes, when counted, were nearly normal in number, and all Widal tests taken were negative. The majority of cases resembled either influenza, with rhinitis, conjunctivitis and cough; pneumonia with a high sustained fever, but a nearly normal pulse rate; or typhoid fever, both with and without a splenic tumor and without rose spots. Some showed a combination of well marked symptoms involving the entire respiratory and gastrointestinal tracts. In all the cases there appeared to be some involvement, however slight, of the upper respiratory tract, the lungs, the gastrointestinal tract. A peculiar odor, somewhat resembling that observed in typhoid, pervaded the surroundings of these ill human beings. The lung signs were very baffling, exhibiting scattered areas of dullness, often wandering, with moist rales, and frequently without any abnormality in the breath sounds. The lung signs rarely balanced one another, rarely were typically pneumonic.

"Through the courtesy of Mr. Burnside, the manager of the store, a brief survey was made of the building. The parrots had been located in two places, a show window, and in the basement in

the center of a large area. A careful analysis was made of the clerks located near the parrots, including one who had charge of those birds which were ill. These individuals were compared in groups for the incidence of disease, with those at various distances, upon the same floor, and those upon different floors. Like the public, practically all the clerks made a point of seeing the parrots. There must have existed in that basement a zone of virus loaded air about the group of parrots. Some people touched the parrots, but in the vast majority of instances, the inspiration of the air of this zone was the common factor. However, under such circumstances, there must also have been a personal factor. The young woman caring for the sick parrots did not become ill.

"There were a number of human cases, in which the disease in its epidemic form must have been contracted from sick parrots, after the birds had been taken to the homes.

"As far as could be determined the disease was not, in its epidemic form, transmissible from human beings to human being. This also was true of previous epidemics."

ETIOLOGY

Within the last year a number of men have questioned the previously accepted causative factors of this disease. They point to the fact that most workers are unable to recover any specific organism from diseased patients. Evidence now points to the assumption that we are dealing here with a specific virus which, after an incubation period of from ten to twelve days, penetrates the human organism by way of the pharynx. Among those holding this opinion are the three English writers: S. P. Bedson, M.D.; G. T. Western, M.D.; S. Levy Simpson, M.D., who say, "The etiology of psittacosis remains obscure. It is true that in 1893 Nocard isolated a Gram-negative bacillus from the bone-marrow of parrots dead of this disease, which he considered to be the causal agent and named in consequence *Bacillus psittacosis*. Subsequent work has shown this organism to be identical with *B. aertrycke*, and though the literature contains instances

of the isolation of this bacillus from parrots suffering from psittacosis such a finding has been by no means constant, and in only two instances has it been reported as occurring in cases diagnosed as psittacosis in man (Filbert and Fournier, Thomson). Nocard's bacillus being one of the salmonella group, should present little difficulty in isolation, and further one would expect that infection in man with such an organism would result in unequivocal serological evidence of its presence; this, however, has not been forthcoming.

"We have had the opportunity to investigate twelve human cases diagnosed as psittacosis and six parrots connected with these cases; one of the human cases came to autopsy. In none of these have we been able to obtain any evidence, either bacteriological or serological of the presence of any member of the salmonella group.

"In view of our negative findings, and of those contained in the literature we decided to approach the problem from a different angle. It occurred to us as possible that this disease in parrots is caused by a filtrable virus which may under favorable conditions be capable of infecting man. Using the budgerigar (a type of parrot) as our experimental animal we have been able to demonstrate the presence of a filtrable virus in the organs of a parrot which have been responsible for two human cases. The bird was ill when it reached us, and died in the course of a day or two; bacteriological examination of its tissues gave entire negative results. Although no quantitative experiments have been carried out our findings suggest that the virus passes readily through Chamberland Li* filter candles and passage in budgerigars with filtered material has been realized. The parrot tissues are still virulent after being kept for twenty days in fifty per cent glycerol saline in the cold."

DIFFERENTIAL DIAGNOSIS

This disease presents diagnostic difficulties. The picture presented by the patient must be differentiated from typhoid fever and pneumonia. One must especially look for lung signs, as frequently there is no pain in the chest,

cough, nor expectoration. High temperature, often beginning with chills, pulmonary dullness at times, and coarse rales are the findings suggesting pneumonia. A low leukocyte count, and the absence of initial chill, cough and expectoration tend to rule out pneumonia. Early, one may find in a suspected case headache, hardness of hearing, stupor, and a low leukocyte count, these findings causing one to think of the possibility of typhoid fever. The fast pulse, absence of typhoid bacilli and negative agglutination test for typhoid and paratyphoid rule out typhoid fever.

The following is a case we desire to report:

About December 23, 1929, Mrs. U. was presented with a pair of love birds. The birds were purchased from a Kansas City, Missouri, bird store with a history of having been secured from a St. Louis, Mo., dealer, who in turn purchased them with other birds from a Los Angeles, California firm. Mrs. U. was very fond of these birds and took care of them, cleaning the cage and handling them.

Within a few days after the birds were received it was noticed that one of them was sick, drooped its wings, had some diarrhoea, and breathed faster than usual. About the end of the first week in January the bird died. The other bird showed no signs of sickness.

Living with Mrs. U., was her mother, Mrs. W., who occasionally handled the birds. Several days prior to January 22, Mrs. W. was feeling tired, with some headache, chilliness and exhaustion, and upon that date was visited and found to have a temperature of 103.5° F., pulse 100 and respiration 23, accompanied by nausea, dizziness, severe headache, general muscular aching and severe prostration. This condition persisted for one week and thereafter a gradual return to normal ensued.

About the same time the daughter, Mrs. U, had recurring chills, vomiting, intense headache, marked prostration and general muscular pain. She became worse, her temperature rose to 104.5° F., and on January 26 she was removed to Bethany Hospital. Soon after the onset of her symptoms Mrs. U had some cough,

and a few coarse rales were heard in her chest, but no definite signs of pneumonia were found at any time.

Mrs. U. entered Bethany Hospital on January 26, 1930, with the history of being under par and worrying a great deal for the past month. Patient could not sleep, and acquired a severe head cold and headache. This condition persisted until about a week previous to admission when she felt weak, tired, and had an increasing headache associated with fever, worse in the p. m. The headache was most severe in the occipital regions. She had one or two chills at irregular intervals with temperature ranging from 101° to 104.5° up to the time of admission to the hospital. A peculiar mask-like expression simulating the Parkinsonian facies, observed by others, was noted.

The past history was essentially negative for any serious illness.

The laboratory tests on this patient were negative for malaria, typhoid and undulant fever. The routine blood culture and Wassermann were also negative. Stool examination made by the U. S. Public Health Laboratory failed to reveal anything abnormal. The urine was essentially negative.

The blood picture on admission:

Hemoglobin	94%
Erythrocytes	5,460,000
Leukocytes	9,900
Polynuclear	62%
Lymphocytes	32%
Monocytes	5%
Basophiles	1%

The patient's temperature after admission to the hospital on January 26, 1930, showed a daily peak ranging from 103.2 to 105 for eleven days when it dropped by crisis on February 5, to 99.6.

On physical examination we found:

EYES: Reacted poorly to accommodation. Other wise normal.

EARS: Showed no abnormality.

NOSE: Showed no obstruction and very little discharge.

THROAT: No enlarged glands or soreness.

NECK: No enlargement of thyroid.

CHEST: Of normal contour, no abnormal dullness to percussion, occasional

coarse rales, expansion equal on both sides.

HEART: Rate 104, no irregularity, no murmurs, no enlargement.

ABDOMEN: Normal contour, no rigidity, slight tenderness in lower left quadrant over colon.

LIVER AND SPLEEN: Appear free from tenderness and enlargement. The following progress notes are of interest:

1-27-30—Had an uncomfortable day. Temperature reaching 105° but relieved by antipyretics. Pulse 100. Headache severe in p. m.

1-28-30—Has had a better day, coughs more and has more rales in left posterior chest and lower lobe. No definite consolidation.

1-29-30—No appetite, hard to get her to eat. Temperature not so high. No headache. Pulse 100.

2-2-30—Occasional cough, no expectoration. Temperature reached 103.5°. Pulse 96.

2-4-30—Temperature to 103.2°; Patient complains of much exhaustion. Pulse 104.

2-5-30—Temperature 103.8°. Pulse 104. Coughing. Visited by Dr. Williams, Asst. Surgeon Gen'l U. S. Public Health Service; Dr. Earle Brown, Secretary of the State Board of Health; Dr. Henry, City Health Officer, who confirmed the clinical diagnosis of psittacosis.

2-8-30—Temperature below normal this a. m. Pulse 84. Patient doing well.

2-14-30—Patient improved. Up in chair.

2-16-30—Home today. No temperature. Pulse normal. Patient feels fine. No soreness in the abdomen. No cough. Recovered.

TREATMENT

As yet there has been no specific therapy discovered for this disease but several of the following suggestions may be helpful.

1. The room the bird occupied should be closed and disinfected. The birds suspected of the infection should be killed and destroyed and all the occupants of the house watched for pharyngeal symptoms.

2. The pharynx should be frequently cleansed with mild alkalin antiseptics.

3. Free use of dextrose should be made either by the Murphy drip or the intravenous route.

4. The heart action should be sustained by proper stimulants.

5. Further treatment is symptomatic.

SUMMARY

A brief review of psittacosis is presented. The case presented is considered to be one of psittacosis, since the patient was closely associated with a sick parrot, and following the death of the parrot, became ill and presented fairly typical findings of this disease. Suggestions for combatting the disease are offered.

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Cesarean Section

LESLIE LEVERICH, M.D., Kansas City

Read before the Wyandotte County Medical Society, March 1, 1930.

Whether we begin our study from the times referred to in the myths and folk lore of the early European races, the establishment of the operation under early Roman civilization or in fact at any of the various periods of change in the years that have followed, we can readily see a gradual increase, both in indications and in the frequency of the operation.

Authentic history of cesarean section may be said to cover four periods, the first extending from the earliest times to the beginning of the 16th century; the second from the year 1500 to 1876, when Porro published his method of amputation of the uterus following cesarean section; the third period beginning in 1876 and extending to 1907, and includes the development of the so-called conservation cesarean; and the fourth period from 1907 to date, covers the development of the extraperitoneal operation in cases considered not suitable for the classic conservative section. The operation in the beginning was done only

after the woman had died, and with the expectation of saving the offspring. During the second period, things were gradually becoming a little more modernized and the operation was occasionally performed on the living, but only as a last resort, as it was believed to be a very fatal procedure.

In 1876 Porro described his operation and there was a decided improvement in the prognosis. Porro's procedure was, no doubt, a wise one as the cesareans being done at this time were done in a crude way, the uterus was left open, no sutures used, and this of course, allowed both the escape of infected lochia into the puerperal cavity and hemorrhage.

Sanger, in 1882, revolutionized the operation and paved the way for its modern development. He, instead of dropping an unsutured organ into the abdomen, sutured same and thereby controlled hemorrhage, got rid of the great source of infection and thus avoided the sterilization of a great many women. This operation has been designated the conservative in contradistinction to the Porro, or radical cesarean.

Since that time, we have had a gradual improvement in our technic both as to the Porro and the conservative procedures; various modifications of these have been advocated and at the present time one of our authors is urging the abandonment of the classical section in favor of an extraperitoneal operation.

As to the indications for cesarean today, we classify them under Pelvic and Non-pelvic. Under Pelvic, we have the pelvis with a narrow true conjugate—contraction of the pelvic outlet—the transverse and obliquely contracted pelvis—exostoses—tumors of the pelvis—various distortions due both to disease conditions and old fractures. As to the Non-pelvic, we have fibromyomata and carcinoma of the uterus, ovarian tumors, tumors of the rectum, atresia of the birth canal, dystocia due to operations for uterine displacements, toxemia of pregnancy, placenta previa, separation of placenta, cardiac diseases, elderly primipara, malpositions of the fetus and abdominal abortion.

The great majority of cesarean sec-

tions are indicated when some disproportion exists between the size of the fetal head and the maternal pelvis. The pelvic indication may be either absolute or relative; absolute where we have a true conjugate of 5 cm. or less—no alternative; relative in a pelvis with a true conjugate from 5 to 7½ cm. the delivery of a living child is impossible except by cesarean; elective in a pelvis with only a moderate degree of contraction of the true conjugate, cesarean section should seldom be one of election. This type, to my mind, is one, the particular one that largely determines a seemingly, if not an actual, increase in the number of cesareans done at the present time. From my own experience in the past ten years I have gained a better knowledge of the many factors that we meet with in this class of cases and I feel that in at least a few of my early cases, I possibly could have delivered them per vaginal route. All cases of a moderate degree of contraction should not only have a test of labor, but a thorough pelvic investigation should be made, preferably under anesthesia. The relative size of foetal head and pelvis should be determined as near as possible, and all factors that seriously threaten the life or health of either mother or child should be carefully considered.

Two women with practically identical pelvic measurements and with children of approximately the same size may have totally different results. Many of these patients will deliver themselves or possibly can be delivered with forceps with but little difficulty, and the exercise of the wisest obstetric judgment is called for to determine which case can be safely delivered through the pelvis after a labor of not undue severity for the given patient, and which should be subjected to a radical operation for delivery.

In closing I want to say that I have simply mentioned many of the indications for cesarean, and as to the question, Is Incident Increasing?, I have no statistics at hand that would answer this question but you no doubt have gathered from my remarks that I believe there is an increase which is partly due to lack of knowledge or skill on the part

of the obstetrician, and there is an increase also that naturally comes from our better knowledge of the dangers met with in this branch of medicine, and also from the more scientific and safe way we have of handling conditions that are of importance to both mother and child.

—R—

Podalic Version

E. A. REEVES, M.D., Kansas City

Read before the Wyandotte County Medical Society, March 14, 1930.

Version is one of the oldest, if not the oldest obstetrical operation, and has been practiced since the earliest history of obstetrics.

Briefly defined, version in obstetric practice is the artificial changing of the position of the foetus in the uterus. We find four methods described in the literature. External, postural, internal, and combined. Only one of these methods concerns us in this study, as the other three are of very little value in actual practice.

Internal version and podalic version in a large majority of cases mean the same thing, and in practically all of our podalic version cases, the version proper is followed almost immediately by another operation, extraction by the breech; and when we speak of delivery by version, we mean the completion of delivery, as well as the turning of the foetus in the uterus.

Podalic version is the introduction of the entire hand into the uterus, grasping one or both feet, and by pressure upward upon the head by the free hand or by an assistant, the foetus is turned in the uterus, this method is also spoken of as bipolar version. The foot or feet, I seldom spend much time hunting for the second foot, as the position of the great toe gives us the relation of this foot to the body of the foetus, are gradually and without too much force brought to the vulva, now by gentle traction the turning is completed, and the buttocks appear at the vulva; by rotation and gentle traction, sometimes not so very gentle, the anterior scapula rotates under the pubic arch, and the hand and arm are delivered, followed rapidly by the second shoulder and arm. Care must be taken

to keep the foetus face down or the occiput may rotate into the hollow of the sacrum, and we would have an occiput-posterior with the body outside the vulva, which would be little less than a tragedy. Now with one finger in the mouth, more to guide the head over the perineum than traction, and with firm pressure over the fundus, the chin appears at the vulva followed by the mouth, face and lastly, the brow. As soon as the mouth appears at the vulva, the mucus and blood is quickly wiped away by the nurse, and usually the child breathes.

We can now take our time to deliver the head over the perineum, as the baby can breathe, and is in no danger. Usually there is a lusty squall at this stage, and the operation is over. The vulva should be kept covered to prevent the sudden rush of air into the uterus, and possible air embolism, if the mother should cough or strain to vomit as she awakens from the anesthetic. One c.c. of pituitary extract is given as soon as the body is delivered to hasten the third stage, and prevent hemorrhage, and ergot after the delivery of the placenta. Any tears are repaired, the patient placed in a warm bed, and closely watched until consciousness returns, and the danger from hemorrhage is passed.

CONDITIONS NECESSARY FOR PODALIC VERSION

(1) There must be complete dilatation of the cervix. If necessary dilatation may be completed manually, but no cautious man will attempt version through a rigid undilated cervix.

(2) The membranes should be intact or recently ruptured, the sooner after rupture of the membrane version is done, the easier and safer it is.

(3) There should be no tonic contraction of the uterus that will not relax under anesthesia, because of danger of rupture of the uterus.

(4) There must not be too great a difference between the size of the foetal head and the pelvic outlet. With our present knowledge of pelvic and foetal measurements, this condition should be easily avoided.

(5) The patient must be carefully prepared, as for any surgical operation.

(6) The patient must be under complete ether anesthesia.

INDICATIONS FOR VERSION

Podalic version is indicated in two large groups of cases, namely, transverse or oblique presentations, and many vertex presentations, making delivery difficult or impossible as face, brow and occipito-posterior presentations.

The necessity for version in transverse presentations is obvious, as the child cannot pass through the birth canal, until one pole or the other presents. In occipito-posterior that do not rotate, version is much safer than any other method of delivery. The writers tell us that most of these occipito-posteriors will rotate if left long enough, but I am of the opinion that many of them will go far beyond the danger line for both mother and baby before rotation takes place, and why should a mother be allowed to exhaust herself and baby by fruitless efforts to deliver herself? What does she want a doctor for if not to be of service to her?

Another condition where version has proved to be the quickest, safest and best method of delivery, is in placenta previa after dilatation has been completed by the introduction of a bag or manually, and where immediate delivery is imperative for the safety of both mother and baby. Also in eclampsia, version is often the quickest and safest method of delivery, also in cases of premature detachment of the placenta, with hemorrhage.

Now to attempt to answer the two questions asked in the program: "Is the incidence of podalic version on the increase? If so, why?"

(1) Yes, I would say it is on the increase.

(2) The technic of version has been so carefully and thoroughly worked out by Dr. Potter, and given to the profession so that any man doing obstetrics may work out for himself a technic of safety. We are recognizing false positions now as never before, also indications and contra-indications for certain lines of procedure. How often now do we hear of craniotomies being done or maceration of the foetus? Scarcely ever. I have never seen a craniotomy in

twenty-seven years of practice, but have been the butt of many jokes, because I did so many versions.

Just a few statistics about my own work if you please.

Presentation—In one thousand cases there were one-hundred and fifty-three occipito-posterior presentations, and thirty breech. A much larger percentage of occipito-posterior, than we find in the literature.

In the last ten years I have delivered eleven-hundred twenty-three cases in my private work with an operative percentage of 28 plus. This seems very high, but a number of these cases were referred for operation, increasing the percentage somewhat.

There were 154 versions, 3 per cent plus, 104 forceps deliveries 9 per cent plus, and 66 cesareans, 6 per cent.

In the one hundred fifty-four versions there were five dead babies. Not one of which could be charged to the method of delivery. Two cases where attempted forceps delivery had been made with failures, referred cases. Two hydramnios, one a hospital case, the other a referred case. One hydrocephalus with placenta previa and severe hemorrhage. One mother died from hemorrhage from placenta previa, the last baby mentioned.

CONCLUSION

Podalic version is an operation of great value to the obstetrician, and properly done is in my opinion a better, easier and safer procedure than high forceps, for any condition that may call for either operation, and is the operation of choice in all transverse presentations. If done aseptically, at the proper time and with the proper skill, it is practically without danger to mother or baby, and gives results very gratifying to both patient and physician.

—R—

Forceps

GEORGE H. SMITH, M.D., Kansas City

Read before the Wyandotte County Medical Society, March 4, 1930.

My portion of this symposium on operative obstetrics has to do with probably the oldest division of the subject of the evening. While some evidence exists that those of very ancient times had some

knowledge of cesarean section and version before forceps were invented and began to be used, yet, from the time of the well established entry of forceps into the field of obstetric practice until the present time, their use has been widespread and probably has been on the increase, at least until very lately. Various degrees of success have attended their employment and one cannot help but wonder when we view some of the older and more primitive forms of the instruments, that their use was attended by even as good results as it is said to have been. I believe there never has been an instrument invented the use of which by skilful hands and under proper conditions, has relieved more suffering and been a greater boon to humanity than the obstetric forceps, while their abuse or unskilful use has left many mothers invalids and has lost many babies' lives.

In the limited time allotted to this paper, I shall try to cover the subject as outlined and shall take no time to give attention to details or descriptions of methods or technique of application and have attempted to touch only some of the high points under the headings suggested by those who formulated the program.

Since the advent of cesarean section and the coming into vogue of podalic version, the operation of forceps delivery has fallen into more or less disrepute with some obstetricians, but I hold that the forceps operation is not the least important of operative obstetric procedures for various reasons. I hold that it requires a high degree of skill (although often done by those who do not possess it) and also that it is done more frequently than any other form of operative delivery, in spite of the growing popularity of other methods of ushering our offspring into the world. Forceps delivery will, when necessary, probably continue to be used by general practitioners—if there still be any such—for some time to come and by those who do not feel the urge to do sections and versions as do some of us.

Forceps were invented by Dr. Chamberlen, a Huguenot physician of France, who fled from France to Belgium and

lived there, handing down the secret of the instrument to his son. It was kept secret for almost a hundred years and the users gained some fame for their ability to deliver women in labor when others could not and commercialized the knowledge of the instrument and their method of using it for a long time.

USE OF FORCEPS

Coming now to the use of the instrument known as the obstetrical forceps, most authorities agree that its most important use is to assist in the delivery of the unborn child. As to the different divisions of this general function, the following have been named by different authorities: traction, rotation, leverage, and irritation of the uterus, this one by some of the older authors, to cause a uterus which had ceased its expulsive action to resume it by simply inserting the blades. Traction is the oldest and most often mentioned use, closely followed by that of rotation. I believe that, since the introduction of rotation into operative obstetric technique in 1752 and the Scanzoni method in 1865, this phase of their use has become fully as important as that of traction alone. A simple change by rotation of an occiput posterior or a transverse arrest will often enable the patient to complete the delivery by her own powers, unaided by traction on the head. In the faulty positions mentioned, most authors hold that rotation should be done before traction is attempted while some hold that traction and rotation may be combined. It is only to be mentioned in passing that in the past some operators advocated using the forceps applied anteroposteriorly as a lever to draw the head past the promontory. I think this practice is obsolete and justly so as it accomplished nothing that could not be done by other methods and the up and down motion which its users are said to have employed could not fail to cause injury to the maternal soft parts.

The application of forceps to deliver the after coming head in breech and podalic deliveries may be mentioned but is not often done. Their use in "high forceps" is fast becoming passe. Leaving then traction, traction combined with

rotation and rotation alone as the most important uses of the forceps, and all these to be done with the utmost care and skill of which we are capable because as DeLee says, we have the child's brain in the grip of a vise when we have the head in the grip of the forceps, we pass on to the indications for their use.

INDICATIONS FOR THEIR USE

Here we are not taking time or space to mention contraindications and we will touch only on the positive side of the question. I like DeLee's classification, perhaps somewhat modified. He gives uterine inertia, arrest of rotation (and I would add, persistent occiput posterior) and complications of various sorts. The chief indication is probably uterine inertia, either primary or from exhaustion by prolonged labor. All of us have seen many cases where dilatation took place and the pains persisted for a while and the head descended to a mid or low position and then the expulsive efforts either stopped or became so weak as to be ineffective and even the use of oxytocics has failed to bring them on again. Then it is a humane and life saving act to complete the delivery with the forceps.

Faulty positions, as has been already said, indicate interference by the forceps when they do not indicate version. Transverse arrest of the rotating head or persistent occiput posterior are positive indications for the instruments if the pelvic measurements are such as to lead the operator to believe that there is not enough disproportion between the fetal head and the outlet to constitute a bar to delivery per via naturalis. Simple conversion of the faulty position to a correct one can usually be easily done by forceps of some type and the delivery completed by the patient herself.

Sudden emergencies in the form of some complication on the part of the mother or child may arise which call for immediate completion of the delivery per instruments if at all possible. The condition of the fetal heart is to be closely watched and a constantly slowing rate is an indication for speedy delivery. If the presenting part remains in medium or low position for as much as two hours, it is time to interfere and complete de-

livery. We may add DeLee's indications for 'prophylactic forceps' to those already given, that is, in primiparæ, when the head has reached the vulva, do an episiotomy, apply forceps and complete the delivery, both to conserve the mother's strength, to shorten the labor period and to relieve pressure on the child's head.

Many of us may not agree with DeLee as to the usefulness or propriety of this procedure but if we could repair an episiotomy wound as skilfully and successfully as he does, it is probable that we would do more episiotomies and that the prophylactic forceps operation would be used more often.

INCIDENCE OF INSTRUMENTAL DELIVERIES

Comes now the shortest part, the answer to the question as to the increase or decrease of instrumental deliveries, and the answer is, I do not know but am of the opinion that it is decreasing. At one of our local hospitals, the instrumental deliveries for 1928 show 21 per cent and the same percentage for 1929, versions 10 per cent for both years of the same period, sections 3.2 per cent in 1928 and 5 per cent in 1929.

Chicago Lying In Hospital for the period of 1925-27 shows 21.3 per cent forceps deliveries of all types and for the period of 1928-29, 19.2 per cent, a slight decrease. I think on the whole that in the cities where adequate hospital facilities are available that the percentage of forceps deliveries is slightly on the decrease but where the facilities for abdominal operation are not so readily available or when the practitioner does not believe in complete accord with Dr. Potter of Buffalo, the use of forceps will continue to hold its own. The use of pituitary extract, whether always used wisely or not, has often obviated the use of forceps and it may be classed as one of the factors lessening the incidence of instrumental deliveries, along with version and section.

SUMMARY

The chief uses of the forceps are to assist in delivery by traction, rotation and traction combined with rotation.

The chief indications are, uterine in-

ertia, arrest of rotation, faulty positions and emergencies and complications.

The incidence of forceps deliveries is thought to be slightly on the decrease.

In conclusion, I hold no brief and offer no arguments for the use of forceps when other methods are honestly indicated instead. I am willing to admit that I have used them when I should have had stamina enough to do a section or perhaps a version. The main trouble is, as the old proverb inelegantly expresses it, "Our foresight is not as good as our hindsight" and if we could always foresee in advance the outcome of whichever procedure we elect to use, it would be an easy matter to know which path to take.

Surgeons may be infallible, internists and pediatricians and practitioners of the other branches of the medical art may never, never be wrong as to diagnosis and treatment. But show me the obstetrician who has never made a mistake and you will have to show me one as yet unborn.

I have offered this paper, barely skimming the surface of the subject, intentionally leaving out many points which there was no time to cover, and possibly unintentionally leaving out some which should have been covered.

— R —

TUBERCULOSIS ABSTRACTS

A view quite generally held by the public and all too often encouraged by physicians is that tuberculosis does not occur in old age. Osler called attention to the surprising prevalence of the disease in the aged, particularly in institutions. He noted that it is usually latent and runs a slow course, and that the diagnosis may easily be overlooked because of the emphysema and co-existing bronchitis which mask the symptoms of the underlying tuberculosis. In a recent article, Myers and Anderson epitomized the literature on tuberculosis among older persons and reported 37 cases of frank pulmonary tuberculosis in men and women from 50 to 80 years of age. Abstracts from this article follow.

... TUBERCULOSIS AMONG THE AGED

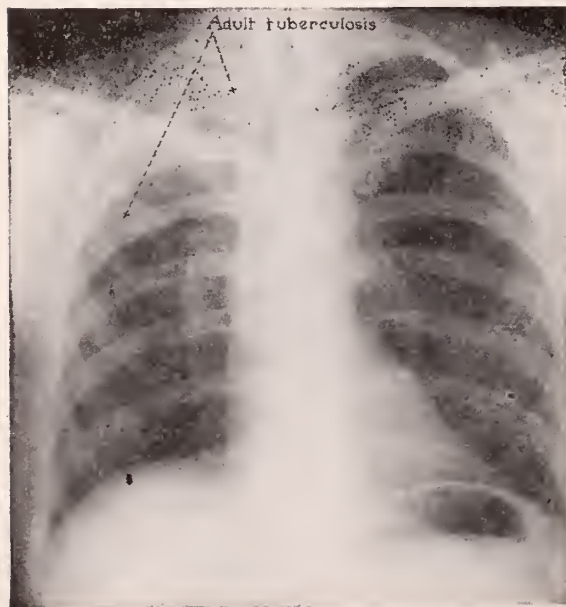
Tuberculosis in people between the ages of 50 and 90 years may be of all types that are ordinarily seen in the

early years of life, but the chronic indurative and ulcerative types seem to predominate. Taubert found tuberculous caries, meningitis, and miliary disease, and Schurmann reported a recent primary complex, in addition to an old primary complex, in the lung of a man 72 years old. Fried reports a case 59 years of age with tuberculosis of the lung hihum, which resulted in death.

SYMPTOMS AND PHYSICAL SIGNS

Although anatomically the tuberculous process in the aged may be very extensive, it is clinically mild, and symptoms are frequently entirely absent. Night sweats, fever, and hemoptysis are rare. The patient may experience some dyspnea on exertion. Usually, there is cough of long standing, but expectoration is likely to be absent. In most cases, the symptoms are those commonly attributed to emphysema, chronic bronchitis, or cardiac changes.

Physical signs also may be slight or absent; even rales are rarely elicited. Auscultation is difficult because the signs of emphysema over-shadow those of tuberculosis. The *x*-ray is a valuable



Age 70 years. Pulmonary tuberculosis diagnosed soon after attack of pneumonia 45 years ago. Doentgenograph taken July, 1928.

aid; in fact, it is often the only means of making the diagnosis. The tuberculin test, as Krause says, is the only proce-

dure which, unassisted, can settle a diagnosis of tuberculosis, though only in a negative way. It should be done, therefore, in every case, for, if negative, tuberculosis may be confidently excluded. Tubercle bacilli should be searched for. Goldman and Wolff examined routinely the sputum of institutional patients and found bacilli in 2 per cent of 339 aged people, none of whom was suspected of having tuberculosis.

THE DANGERS

The aged patient himself has little to fear from the tuberculous condition, but the danger to his associates is great. Numerous cases of children having become infected and diseased through exposure to grandparents or other elderly members of the family are on record. The hazard is all the greater because usually tuberculosis is not suspected, and the usual precautions are not taken.

A case is cited:

In a luxurious home in Paris, father and mother in the best of health and with excellent past histories, three boys, one after the other, almost at the same age, died of tuberculous meningitis. Investigation led to the governess, more than 60 years old and a sufferer from chronic bronchitis, emphysema and asthma, which proved to be a case of torpid, senile tuberculosis. She was detached from the family. Nothing else in the home was changed. Subsequently two children were born and nursed exclusively by the mother. "One is now approaching 30 years, the other is a superb girl of 25 years."

TREATMENT

A radical change in the habits and mode of life of the aged tuberculous person is probably not advisable. Teaching them to prevent the spread of their disease is the most important requirement. If the disease is unilateral, artificial pneumothorax may render the sputum negative and thus make them fairly safe associates.

SUMMARY

The authors, from their review of literature and studies of their own cases, make the following conclusions:

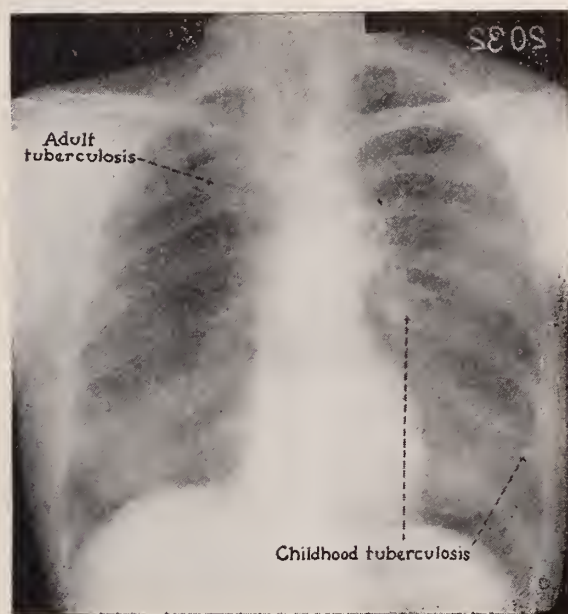
1. Thirty-seven cases of frank pulmonary tuberculosis in men and women

ranging from fifty to eighty years are reported.

2. In 9 cases, there had been definite exposure to tuberculosis, usually to members of their families in early life.

3. Among the children and grandchildren of these 37 men and women, tuberculosis is known to exist in thirteen cases. It has been impossible to examine more than a few of the children and grandchildren.

4. The symptoms in the aged cases dated from six weeks to approximately forty-five years before we saw the pa-



Age 63 years. Both childhood and adult types of tuberculosis present.

tients. In 6 cases, hemorrhage was the first symptom, and in 5 others it has occurred during the course of the disease. Pleurisy was the first symptom in six cases. Cough, frequent colds, bronchitis, and catarrh were the first symptoms in 20 cases.

5. On physical examination, all signs were elicited from those of the most advanced disease to those of a normal chest.

6. Tubercle bacilli were demonstrated in 21 cases. We are cognizant of the fact that a negative finding on a few examinations in the remaining cases is of no significance.

7. The cutaneous tuberculin test is of

great value in chest work among the aged. Some have not been infected, others have "burned out" their infections; therefore, a negative test is of great significance.

8. *x*-Ray film examination should be made in every case. Without it, many frank cases of tuberculosis and other chest disease will remain undiagnosed.

9. In treatment, such a high degree of conservation is not necessary as is practiced among young adults. When the disease is unilateral and progressive, artificial pneumothorax may be possible. Even extra-pleural thoracoplasty may be indicated in the earlier years of this age-period.

10. Tuberculosis in the aged is one of the great problems from the standpoint of epidemiology. Its danger lies in its mildness. Many cases are not diagnosed until very late in life, and not a few are first diagnosed at the postmortem table.—*Tuberculosis among the Aged*, J. A. Myers and H. R. Anderson, *Amer. Rev. of Tuberc.*, April, 1930.

—R—

Rival Prophylactics in Diphtheria

The early success with toxin-antitoxin in this country has given to it almost exclusive use in prophylaxis. There are, however, other effective ways of reducing the toxicity of diphtheria toxin besides partial neutralization with antitoxic serum. The products of these newer methods have been extensively used in Canada and in Europe. In the schools of Milwaukee from 1925 to 1928 the respective percentages of immunity achieved by the use of toxin-antitoxin were 85, 62, 75 and 69. With diphtheria toxoid better results were obtained, only 2 out of 128 giving positive Schick tests after treatment. Another claim in favor of diphtheria toxoid is that it does not result in sensitization to horse serum. However, it is not likely that toxin-antitoxin produces any noticeable sensitization; further, the toxin-antitoxin may be prepared with goat or sheep serum. Diphtheria toxoid would seem to be at least as valuable as diphtheria toxin-antitoxin mixture and in the preschool child is probably to be preferred. (*J.A.M.A.*, May 24, '30.)

THE JOURNAL

of the

Kansas Medical Society

W. E. McVEY, M. D. - - Editor

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WHY LAWS

That there are a good many superfluous laws in our statutes is generally conceded, that there are a few unenforceable and many unenforced must be admitted. The medical practice act is certainly not one of the superfluous ones, there is yet no reason to believe that it is unenforceable but one must admit that it is poorly enforced.

The fact that a man can practice medicine in the state for a number of years and serve a good portion of a term as a member of the Board of Registration and Examination, without ever having been licensed by the Board is rather striking evidence of laxity in law enforcement. The fact that a man who has never been licensed by the Board can practice medicine and surgery in an institution so widely advertised as the one at Milford without being molested by the authorities is even more convincing.

There are numerous others practicing medicine and surgery in this state in violation of this law. In fact there is plenty of evidence that the law is not enforced, but it has not been demonstrated that it

cannot be enforced. Chapter 65, Article 10, Section 6 reads as follows:

“From and after the 1st day of September, 1901, any person who shall practice medicine and surgery in the state of Kansas without having received and had recorded a certificate under the provisions of this act, or any person violating any of the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall pay a fine of not less than fifty dollars nor more than two hundred dollars for each offense; and in no case wherein this act shall have been violated shall any person so violating receive compensation for services rendered. It shall be the duty of the secretary of the state board of registration and examination to see that this act is enforced.”

In the case of *The State v. Cotner* the Supreme Court decided that the above section penalizes each specific act of practice.

In the hearing recently conducted by the Board in the Brinkley case a large number of witnesses on both sides testified under oath that the man Osborne examined and diagnosed their cases or performed the operations or did both. Each of these cases is a specific act subject to a fine of from fifty to two hundred dollars. There is some reason to believe also that the clause in the above section which reads: “and in no case wherein this act shall have been violated shall any person so violating receive compensation for services rendered,” makes possible the recovery of fees paid by those who were operated upon by this man Osborne.

There is nothing in the medical practice act under which he can claim exemption. There is nothing in any section of the law which justifies the theory that a physician or surgeon employed by a hospital of any description in this state is exempt from the provisions of the medical practice act.

SOME NECESSARY REPAIRS

In a short time now another legislature will be in session and the necessity for some revision of the laws governing the practice of medicine in this state is evident to everyone who has taken the trouble to investigate the matter. In the first place the composition of the Board of Medical Registration and Examination as now required by the law, at least as its framers intended, is impossible. At the time the medical practice act was passed there were but three schools of practice and in order to secure favorable action by the legislature and avoid active opposition by the other schools it was necessary to make some definite provision against possible control of the board by either one of the schools.

There are in the state at this time a sufficient number of graduates of both homeopathic and eclectic schools who are competent to qualify for positions on the Board, but practically all of them are members of our society, so that while they may technically be qualified they are not qualified according to the intention of the framers of the law. Inasmuch as this board has now for a good many years been made up of members of the society it seems quite unnecessary to retain that provision in the law which requires appointments to be made from these three schools of practice.

For the purpose mentioned it will be necessary to amend Chapter 74, Article 10, by striking out "representation to be given to the different schools of practice as nearly as possible in proportion to their numerical strength in this state, but no one school to have a majority of the whole board," and to amend Chapter 65, Article 10, by striking out the following: "Provided, That the examination in materia medica and therapeutics and in the theory and practice of medicine shall be conducted by those members

only of the board who are of the same school of practice as the applicant claims to follow."

It is important also that the exemption clauses should be made more explicit. When the legislature passed the law providing for the examination and licensing of persons to practice osteopathy, a clause exempting osteopaths from its provisions was inserted in the medical practice act, but it was not intended by that law to permit osteopaths to practice medicine. When the law providing for the examination and licensing of persons to practice chiropractic was passed their name was added to the exemption clause, but the intent of that law was more definitely stated and certain restrictions and limitations are provided that prevent them from practicing medicine.

No definition of osteopathy is given in the statute but it was understood at the time the law was passed that osteopathy was a form of drugless healing and on that theory they were exempted from the provisions of the medical practice act. At any rate the exemption clause should have been inserted at a different place and should read in its proper connection: ". . . but nothing in this act shall be construed as interfering with any religious beliefs in the treatment of diseases, nor with the practice of osteopathy by any registered osteopathic physicians, nor with the practice of chiropractic by licensed and registered chiropractic practitioners of the state of Kansas. Provided that quarantine regulations relating to contagious diseases are not infringed upon." Even with this amendment to the medical practice act it would still be necessary to have a final definition of osteopathy. Perhaps the final resort would be the State Supreme Court from which an opinion should settle finally the question if

osteopathy is the same as the practice of medicine as defined by the statutes.

Although a law was passed in 1923 providing for the examination and licensing of optometrists there is a provision in the medical practice act for the examination and licensing of opticians. This was probably repealed by the legislature in 1923 but it still appears in the statutes.

When properly amended Chapter 65, Article 10, Section 5 would then read as follows:

"Any person shall be regarded as practicing medicine and surgery within the meaning of this act who shall prescribe, or who shall recommend for a fee, for like use, any drug or medicine, or perform any surgical operation of whatsoever nature for the cure or relief of any wounds, fracture or bodily injury, infirmity or disease of another person, or who shall use the words or letters "Dr.", "Doctor", "M. D.", or any other title, in connection with his name, which in any way represents him as engaged in the practice of medicine or surgery, or any person attempting to treat the sick or others afflicted with bodily or mental infirmities, or any person representing or advertising himself by any means or through any medium whatsoever or in any manner whatsoever, so as to indicate that he is authorized to or does practice medicine or surgery in this state, or that he is authorized to or does treat the sick or others afflicted with bodily infirmities, but nothing in this act shall be construed as interfering with any religious beliefs in the treatment of diseases, nor with the practice of osteopathy by any registered osteopathic physician nor with the practice of chiropractic by any legally registered chiropractic practitioner in this state: Provided, That quarantine regulations relating to contagious diseases are not infringed upon. This act shall not apply to any commissioned medical officer of the United States army, navy or marine service in the discharge of his official duties; nor to any legally qualified dentist, when engaged in the legitimate practice of his

profession; nor to any physician or surgeon who is called from another state or territory in consultation with a licensed physician of this state, or to treat a particular case in conjunction with a licensed practitioner of this state, and who does not otherwise practice in the state. Nor shall anything in this act apply to the administration of domestic medicines, nor to prohibit gratuitous services, nor to the fitting of eye glasses or spectacles by any properly licensed and registered optician or optometrist in this state."

One of the most important amendments to be considered will provide for an entirely different system of registration of licenses for all those practicing the healing art as well as nurses, dentists, pharmacists, etc. It is important that an accurate and complete directory of all those who have been licensed by these various boards be available to health officers particularly and to those whose duty it is to see that these various laws regulating the practice of the healing art are enforced. At the present time licenses issued by the medical examining board, nurses board and osteopathic board must be recorded in the office of the county clerk while those issued by the chiropractic board must be recorded with the recorder of deeds in the county in which the licensee locates. The dentists board, the pharmacy board and the optometrists board keep their own registry.

All of the laws providing for these various licensing boards and for the examination and registration of various persons in anyway concerned with health and hygiene or the healing art, should be so amended that all such licentiates shall register with the State Board of Health giving names, residences, schools from which education was received, or other source of training, dates of graduation or of issuance of certificates by such schools or sources of training, name of board by which license was issued and

date of the said license; and receive a certificate of registration from the Board of Health before beginning to practice; and on change of location shall notify the Board of Health and receive a new certificate before beginning to practice at the new location.

THE BRINKLEY CASE TO DATE

A complaint against John R. Brinkley was prepared by Mr. Ralston, assistant attorney general, April 28th and signed by Dr. L. F. Barney. The *complaint charged that in his application for a license to practice medicine in Kansas Dr. Brinkley falsely represented that he received his preliminary education in the Tuckasligee high school in 1908 and that no such school existed at that time. It also charged that he has been guilty of gross immorality and unprofessional conduct in that he had pleaded guilty to selling intoxicating liquor on two counts and to maintaining a common nuisance on one count, before a justice of the peace in Junction City; that in 1921 he was placed under bond to keep the peace in Milford township; that he attempted to practice medicine in Illinois but left before the department of registration and education began action against him; that a license issued to him in Connecticut was revoked on the ground that his certificate was obtained by fraud; that in 1924 he was indicted in California on the charge of conspiring to violate the medical laws of that State; that in 1925 he was granted a diploma by the Royal University of Pavia, Italy, and that this diploma was later annulled on account of the low standing of the school in Kansas City from which he held a diploma but that in spite of this annulment of the diploma from the Royal University of Pavia he still claims to be a graduate of that University; that at his hospital at Milford he performs what he calls "The

Compound Operation" for the purpose of curing diseases of the prostate gland, high blood pressure, impotency, sterility, some types of diabetes, neurasthenia, epilepsy and dementia praecox; that in connection with the compound operation he claims that he sometimes transplants animal or human glands, etc. It is charged that this operation cannot be performed in the manner described by him and that such operation is of no benefit or value to the patient; that many patients upon whom the operation has been performed are in worse condition thereafter than before and that in claiming the benefits of this operation he is working a fraud and deception upon the patient. It is charged that patients are frightened by misrepresenting the seriousness of their condition into signing checks for exorbitant fees and submitting to his compound operation; also that he gives talks over the radio for the purpose of enticing patients to his hospital and that he diagnoses, and prescribes for, diseases of people over the radio, that he gives prescriptions by numbers and that these prescriptions can be filled only at certain drug stores from which he receives commissions, etc.

The hearing of the complaint was set for June 17, the date for the regular meeting of the Board, and notice was served on Dr. Brinkley by a special officer.

Within a few days an action was brought by Dr. Brinkley's attorneys in the District Court of Shawnee County to enjoin the Board from further proceedings on the ground that the law was unconstitutional because it failed to provide due process of law in that the Board was not empowered to compel the attendance of witnesses. Judge Whitcomb of the District Court denied the injunction.

An appeal to the State Supreme Court was taken and a request to advance the

hearing was granted. An opinion was handed down by the Supreme Court on June 13, affirming the decision of the District Court. This opinion which was prepared by Justice Burch and in which all of the Justices concurred was so comprehensive and so decisive it should be reprinted here if space permitted. It will be filed, however, for future use by the Committee on History.

There are two paragraphs of the Supreme Court decision that may be quoted, however, because of their bearing on the nature of the hearing by the Board.

"The petition did not allege that the statute was lame in regard to specifying grounds for revocation of license, and it was not. Neither did the petition allege that the complaint did not state grounds for revocation of license prescribed by the statute. The complaint was by no means confined to challenge of the success of the licensee's gland operation, the claimed result of which is that dotards having desire without capability may cease to sorrow as do those without hope, and the complaint was not that the licensee is a quack of the common, vulgar type. Considered as a whole, the gravamen of the complaint is that, being an empiric without moral sense, and having acted according to the ethical standards of an imposter, the licensee has perfected and organized charlatanism until it is capable of preying on human weakness, ignorance and credulity to an extent quite beyond the invention of the humble mountebank who has heretofore practiced his pretensions under the guise of practicing medicine and surgery. The petition for injunction denied the charges contained in the complaint, but the ground for injunction was, the board has no power to hold a hearing to find out whether the charges are true or false."

One need not assume any intention to suggest a line of procedure in this para-

graph in order to find in it a rather definite guide to the character of evidence to be introduced and stressed.

The other paragraph reads as follows:

"It may be necessary for the board to receive affidavits in support of the complaint. Witnesses should be produced for cross-examination if it be practicable to do so, but if it should become necessary to resort to affidavits, due process requires that the licensee should be afforded opportunity to inspect them and to procure counter testimony. If affidavits should be used in support of the complaint, reason for nonattendance of the witnesses should appear, so that in case of judicial review the fairness of the proceeding may be disclosed by the board's record."

It was probably this paragraph that suggested to the Board that in order that there should be no possible complaint of unfairness by the attorneys for Dr. Brinkley they should be permitted to introduce whatever evidence they could produce.

Immediately after the decision of the Supreme Court was known the attorneys for Dr. Brinkley appealed to the United States Supreme Court and a stay of ten days was granted in which to file their case. They failed, however, to get a stay of proceeding from that court.

The Board met on June 17 and postponed the hearing to a time to be determined later. The hearing was finally set for July 15 at Topeka and on that date the hearing began.

Documentary evidence to support the charges had been accumulating for some time before the complaint was filed. After it was made known that a complaint had been filed much additional voluntary evidence was offered. In addition to this Mr. McDonald of the Kansas City Star had personally visited and secured statements from men in various parts of the country who had been treated at the

Brinkley Hospital and from their relatives and friends. All this was introduced and in many cases the former patients appeared as witnesses. Affidavits were also presented from Dr. Max Thorek of Chicago and Dr. Lyons Hunt of New York, bearing on the probable results of goat gland transplant operations. Dr. Edgerton of Wichita, president of the Kansas Medical Society, Dr. Orr, and Dr. Okerblad from the University of Kansas School of Medicine and several other surgeons gave expert testimony concerning the so-called "compound operation." All of the witnesses were cross-examined by the attorneys for Brinkley, coached during much of the time by one E. M. Perdue of Kansas City, Missouri, who advertises to examine blood samples and make diagnoses by the Abrams method, to cure toxic goiter without surgery, and to reduce sacro-iliac subluxation and whose name appears in the Journal of the American Association for Medico-Physical Research as its editor.

The introduction of documentary evidence and the examination of the various witnesses consumed the time of the hearing until about July 23, when the attorneys for Brinkley began to present affidavits and witnesses. There were numerous testimonial witnesses much after the type of the first one, who stated that he had suffered for ten years with hernia, enlargement of the heart, high blood pressure, etc., and that he was cured of all of these by this operation immediately, was able to walk around the next day, free from his hernia and with a normal heart. After a few dozen such witnesses had been heard the Attorney General advised the Board that this was cumulative evidence and that no more of that kind need be admitted. Much other evidence to refute the charges in the complaint was introduced by Dr. Brinkley's attorneys. Members of the hospital staff testified to

his moral character and surgical skill and the aforementioned E. M. Perdue testified to his superior education, his scientific knowledge and surgical skill, etc. Finally Dr. Brinkley himself appeared before the Board and until cross-examined by Attorney General Smith seemed to have made a good witness for himself. During this cross-examination he made some admissions that seemed to the bystanders at least to be very damaging to his case. After hearing Dr. Brinkley's evidence on July 30 the Board took a recess until September 15.

Considerable publicity was given by the newspapers to an invitation extended to the Board by Dr. Brinkley to visit his hospital at Milford and witness his clinical demonstration of his various operations. It is also stated by the newspapers that the invitation has been accepted and that the Board or some representatives of the Board will visit the hospital on September 15 to witness this demonstration, after which the hearing will be resumed.

It is impossible to reproduce even a synopsis of the evidence introduced at this hearing in the limited space available in the Journal. Clippings from the principal newspapers containing reports of the hearing have been and will continue to be collected and filed for future reference if occasion requires.

THE MEETING AT DETROIT

In reviewing the proceedings of the last session of the American Medical Association one is impressed by the broad conception of medical affairs in this country shown by the president, Dr. M. L. Harris, in his address.

He discussed the present National Health Insurance Act in effect in England and the proposal of the British Medical Association to provide a nationwide medical service, and repeated the

recommendation he made last year in Portland, that component county societies should incorporate and establish medical centers owned, controlled and managed by the members of these societies, where all classes of persons who are unable to pay regular fees can be given the highest type of medical treatment at prices within their means.

He also recommended that the House of Delegates should authorize and request the Board of Trustees to establish a Bureau of Medical Economics whose function shall be to study all economic matters affecting the medical profession.

A resolution to the same effect was submitted from the California Medical Association and the committee to which it was referred recommended "that the Board of Trustees put the principle into effect by the creation of a Bureau of Medical Economics to function under the direction of the said Board" and this recommendation was adopted.

The president-elect, Dr. William Gerry Morgan, in his address recommended that a mid-year meeting of the House of Delegates be held annually at the headquarters of the Association. He concluded his address with the statement of certain principles concerning the relations of government to hospital maintenance and of the relation of physicians to the hospital. These are as follows:

1. The physician is no more obligated to provide for the care of the indigent sick than his fellow citizen.

2. In mutual charitable undertakings for the care of the sick, each citizen contributes what he has; the laymen, physical necessities; the physician, professional skill. But each has a right to protect himself from exploitation and to judge of the merit of the recipients of his bounty.

3. When a hospital offers its facilities to a mixed clientele, pay, part pay and pauper, the distinction between the

sources of those facilities should be clearly recognized. The physical equipment and service is of general public origin, and their uses may be sold or given away in the discretion of lay boards; but the professional facilities are, and always must be, the contribution of the medical staff as individuals and cannot become in any sense the property of the institution.

4. When a hospital is owned and operated by the government and supported by taxation, to which the medical profession contributes its due proportion, medical attendance should be paid for by taxation, along with all the other facilities supplied by the institution.

5. No hospital, instituted and supported by public philanthropy or community cooperation of any kind, should be permitted to increase its revenues and so reduce its financial burden on the public, by any system of collecting fees for medical attendance, and thus engaging in the corporate practice of medicine.

6. The membership of the Association should be guided by these principles in accepting posts on the staff of hospitals, and should refuse to support by the contribution of their services, or by the references of their patients, any institution violating them.

The report of the Judicial Council is always one of the most important. It is sometimes asked to solve some intricate problems, occasionally one that defies solution. At any rate the Council should be given credit for treading cautiously in treacherous and uncertain ground. A synopsis of its report is as follows:

The development of industrial medicine, the activities of corporations in medical fields, the expansion of public health programs—especially those of unofficial agencies—the organization of so-called "hospital associations" and "cooperative diagnostic laboratories," the creation of funds and foundations concerned in some manner with medicine and public health, the workings of compensation laws, and many other factors have given rise to many new questions and have produced many perplexing

problems of which final solution is not easily possible.

The Council referred in its report to concerns known as "cooperative diagnostic laboratories" in which practicing physicians participate as "members." Information available to the Council indicates that organization of these concerns is effected in such manner that control will lie in the hands of their promoters and directors and that practicing physicians identified with them must pay for "membership." These physicians are then expected to refer work to laboratories operated by the concern and, as a consideration for such reference, receive compensation varying in amount with the amount of work referred. The Judicial Council expressed the opinion that schemes of this kind are unethical and directly opposed to the interests of scientific medicine and of the public.

The Judicial Council reported that it is constantly being asked to deal with matters over which it has no jurisdiction until they have come before the Council on appeal from decisions of the proper official bodies of constituent medical associations. It was brought out that original jurisdiction over the acts and professional relations of members lies with the component county medical societies, and it is the duty of these societies to institute and carry out corrective measures that may be indicated. Constituent state medical associations, from which component county medical societies receive their charters, have original jurisdiction over the officers of medical organization in the several states, and the powers and duties of the state associations are clearly fixed in their constitutions and by-laws to which component county medical societies must subscribe. It is highly important and necessary to the efficient working of our scheme of organization that every unit shall fully assume the jurisdiction that belongs to it and shall deal promptly and definitely, but with careful deliberation, with every situation that threatens to bring reproach on the profession or that offers opportunity to extend the worthy influence of organized medicine

and to promote the science and art of medicine.

The Judicial Council emphasized the need for the proper preparation of charges and appeals, stressing the fact that organization law is written with proper regard for the rights and privileges of the individual as well as for those of the profession and the public. The Council proposed that the By-Laws of the American Medical Association be amended so as to provide that no person who is not a Doctor of Medicine shall be permitted to become a Fellow of the Association.

At the Portland Session a resolution was adopted by the House of Delegates requesting the Judicial Council to submit to the House of Delegates in 1930 "a comprehensive statement for the guidance of the American Medical Association concerning the practice of medicine by corporations, by clinics, by philanthropic organizations by industrial organizations, by demonstrations and by similar organizations, and concerning the relationship of physicians thereto." The Council reported to the House that the scope of this resolution was so broad and the magnitude of the task assigned so great that it had been found impossible to comply with the request that a comprehensive report be submitted at the Detroit session but that the Council had sought to gather information and secure expressions of opinion from qualified persons and had found that to carry out the intent of the resolution it would be necessary to compile and digest a mass of information of such size that accomplishment of the task is far beyond the capacity of the facilities of the Council. It was brought out that some conditions requiring study have been so lately created and are undergoing such rapid changes that quick appraisals cannot be made. Others now have purely local bearing and no present national significance but may come to be of important interest to the entire profession. With respect to some of the matters covered by the resolution, the Council found that there had been no crystallization of opinion and expressed a doubt that well considered judgment can be formulated.

It was urged that component county medical societies and constituent state medical associations study closely conditions existing in their respective jurisdictions and that they be guided in offering or withholding approval and cooperation in movements affecting medicine by conclusions based on such studies.

With regard to the practice of medicine by corporations, the Council voiced its opinion, based on present evidence, that such practice is detrimental to the best interests of scientific medicine and of the people themselves. "When medical service is made impersonal, when the humanities of medicine are removed, when the coldness and automaticity of the machine are substituted for the humane interest inherent in individual service and the professional and scientific independence of the individual physician, the greatest incentive to scientific improvement will be destroyed and the public will be poorly served."

The report of the Secretary was comprehensive and naturally touches upon many phases of the Association's activities, and there is no question but everyone will agree with the following report of the committee to whom his report was referred:

We endorse the sentiment expressed in the report of our secretary in which he recommends a more active and aggressive program on the part of component medical societies, stressing the necessity for unified action on the part of the medical profession as being essential in maintaining leadership in all questions pertaining to health matters. Also the importance of establishing and maintaining the hearty co-operation of both the state and the county organizations through the agency of their respective public relation committees.

We recognize the changing method in medical practice; however, we earnestly urge a realization of the necessity of maintaining the personal relationship between physician and patient, and oppose any attempt on the part of any well meaning but misinformed and misguided individuals or organizations in their ef-

forts to apply "mass production" methods to the practice of medicine.

We approve that portion of the report advocating the education of the public in all matters pertaining to health and disease.

We concur with the idea expressed that the medical profession has been too reticent and conservative in taking a position of active leadership in health activities, particularly with reference to the education of the public along these lines.

We believe that it would be a decided aid to organized medicine if the members of the House of Delegates would avail themselves of the opportunity of attending the annual conference of the state secretaries.

The following officers and members of Councils were elected by the House of Delegates:

President-Elect—E. Starr Judd, Rochester, Minn.

Vice President—Louis J. Hirschman, Detroit.

Secretary—Olin West, Chicago.

Treasurer—Austin A. Hayden, Chicago.

Speaker of the House of Delegates—F. C. Warnshuis, Grand Rapids, Mich.

Vice Speaker of the House of Delegates—Albert E. Bulson, Ft. Wayne, Ind.

Trustee—Thomas S. Cullen, Baltimore.

Trustee—Joseph A. Pettit, Portland, Ore.

Trustee—J. H. J. Upham, Columbus, Ohio.

Member, Judicial Council—George Edward Follansbee, Cleveland.

Member, Council on Medical Education and Hospitals—Charles E. Humiston, Chicago.

Member, Council on Scientific Assembly—Frank Smithies, Chicago.

Philadelphia was selected as the next place of meeting.

The Scope and Aim of the Committee on the Cost of Medical Care

At the spring meeting of the Committee on the Cost of Medical Care in Washington May second and third, 1930, a special committee of private practitioners was appointed to consider the relation of the committee to the private practitioners of the country. This committee, composed of the undersigned members, now submits the following statement for the information of these practitioners on the scope and aim of the committee's work.

It was clearly recognized by all present at the spring meeting that the committee has undertaken a program of studies which in its scope goes far beyond that part of the cost of medical care which physicians provide. The expense of several other kinds of service now looms large in the total cost of many illnesses. In addition, special emphasis was given at the meeting to the question of the adequacy of the various services available in a community. Finally, the committee adopted a statement of three fundamental principles proposed by the chairman, which should go a long way toward reassuring those who have been apprehensive regarding the nature of the committee's ultimate recommendations.

I.

The committee is interested in far more than the physician's bill, which, in many instances, is considerably less than half the total cost of illness. Hospital care, nursing, dentistry, laboratory examinations, and medicines often involve considerable expense, as is clearly shown by several of the committee's studies which are now being completed or have already been reported upon. In one midwestern county recently surveyed, the expenditures for various kinds of medicines constituted over one-third of the total expense for medical care, and were 20 per cent greater than the costs of physicians' services. It is also becoming apparent that a great deal of money is being spent for useless medicines and for various irregular forms of treatment which do the patient no good or which may result in positive harm.

In order to indicate clearly the broad scope of the committee's work, it was decided at the spring meeting to make a slight change in its name. The word "cost" is to be changed to "costs." The complete name of the committee, with subtitle, will henceforth be "The Committee on the Costs of Medical Care—Organized to Study the Economic Aspects of the Prevention and the Care of Sickness, including the Adequacy, Availability and Compensation of the Persons and Agencies Concerned."

One vital problem before this committee, declared a prominent physician member, at the recent meeting, is the determination of what is reasonably adequate care. In many cases of obscure disorders and serious illness, expensive facilities are essential. Presumably, there must be available in the community well trained general practitioners, certain specialists, dentists, nurses, hospitals and health agencies—trained and well equipped to do their part in providing all the care that the individual may need. A plan of the executive committee, to conduct a study to determine standards of adequate medical care, under the general direction of some well known competent physician and with the assistance of a committee of fifteen or twenty other physicians, was heartily endorsed at the meeting of the general committee.

The aim of the committee is to study the problem described by Dr. Olin West, the Secretary of the American Medical Association, as the one great outstanding problem before the medical profession today. This he says is that involved in "the delivery of adequate, scientific medical care to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life." The committee is endeavoring to establish a foundation of facts which have an important bearing upon this problem. On the basis of these facts, it will propose recommendations for the provision of adequate and efficient therapeutic and preventive service for all the people at a reasonable cost to the individual, which, at the same time, will provide physicians, dentists, nurses, hos-

pitals and other agents assurance of adequate return. This is not a new statement of aim. Recent discussion, however, has given new emphasis to certain aspects of it. There are important items in the cost of sickness other than the physician's bill; and the adequacy of the service provided must be considered. The program of studies is a comprehensive one. It deals with questions of supply, demand, distribution and costs of all kinds of services, both preventive and curative; the relation of these costs to other expenses; the return accruing to the practitioners and various agents furnishing medical services; and especially will it seek to determine what standards of adequacy may reasonably be expected.

II.

Dr. Ray Lyman Wilbur, Chairman of the committee, proposed at the meeting May 2 a statement of three fundamental principles for the consideration of the committee. This statement was referred to each of four sub-committees which held sessions during the two-day meeting. The entire committee, at its last session, May 3, adopted with a few verbal changes the three principles. These will be of special interest to the physicians and dentists. They follow:

1. *The personal relation between physician and patient must be preserved in any effective system of medical service.*

Medical service is and doubtless, by its very nature, must remain a distinctly personal service. Even in this age of standardized commodities for the table, ready-to-wear clothing, and interchangeable spare parts for all types of machines, there has been no plan suggested for the reduction of medical diagnosis and treatment to basic units which can be ordered from travelling salesmen or acquired through correspondence courses. The physician must see his patient and see him, in many cases, over an extended period of time if the diagnosis and treatment are to achieve the greatest possible accuracy and efficiency. There is no substitute for personal observation.

Man is not a standardized machine and each individual reacts to the conditions of life in a manner in some respects unique. In the treatment of disease, this

individual variation is a factor of great significance and can receive due consideration only when the practitioner has known the patient for a considerable time and maintains a personal relation with the patient.

2. *The concept of medical service of the community should include a systematic and intensive use of preventive measures in private practice and effective support of preventive measures in public health work.*

The cost of adequate curative treatment is now high and may continue to increase as expensive procedures resulting from scientific progress become more widely used. Sickness, in addition, involves other personal and social costs, some of which cannot be measured in monetary terms.

The outstanding achievements in scientific medicine have been made in the preventive rather than the curative field. Knowledge now available for the control of malaria, tuberculosis, smallpox, diphtheria, pellagra, typhoid fever, hookworm disease, and goiter, if effectively applied, would make unnecessary a considerable proportion of the present expense for the cure of sickness.

3. *The medical service of a community should include the necessary facilities for adequate diagnosis and treatment.*

From the standpoint of effective diagnosis, many diseases, such as tuberculosis, cannot be recognized promptly in their early stages without the aid of elaborate technical equipment. From the standpoint of adequate therapy, if the best of modern technique is not immediately available, complete cures are either delayed or rendered impossible of attainment. To cite a specific illustration of the improvement of modern therapeutic procedures over those of ten years ago, the time required for treatment of fractures of the hip, and the percentage of permanent invalidity resulting from that injury have each been reduced by more than half.

We cannot be content with anything except the best possible service that modern science can provide and it is therefore imperative that modern scientific equipment for the diagnosis and treat-

ment of disease be available to the practitioners of medicine in every community.

SPECIAL COMMITTEE OF PRIVATE
PRACTITIONERS

Stewart R. Roberts, M.D., Chairman.
Walter P. Bowers, M.D.
A. C. Christie, M.D.
Haven Emerson, M.D.
George E. Follansbee, M.D.
M. L. Harris, M.D.
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Herbert E. Phillips, D.D.S.
C. E. Rudolph, D.D.S.
Richard M. Smith, M.D.
N. B. Van Etten, M.D.

—————R—————

Bone Disease Clinic

To My Colleagues, the Editors of the Medical Journals of the United States and Canada:

If you receive this in time and it is appropriate, will you publish in your journal that there will be a meeting in the ball room of Belvedere Hotel in Baltimore, Maryland, Monday, Tuesday and Wednesday, September 15, 16 and 17, 1930, beginning Monday morning at 10 o'clock and ending Wednesday evening at 9 o'clock, daylight saving time. During these days there will be lantern-slide demonstrations, with four lanterns and screens, on the Diagnosis and Treatment of Diseases and Tumors of Bone.

The first day will be devoted to the fundamental and essential knowledge of the benign and malignant lesions of bone, such as osteitis fibrosa, giant-cell tumors, osteomyelitis, sarcoma and so forth. On the second day, the subject will be the different diseases of single bones, such as the lower end of the radius, vertebrae, etc. The third day will be reserved for the presentation of rare lesions of bone difficult to diagnose. Any member of the medical profession attending this meeting may register such a case by addressing Miss Maude Walker, Secretary to Dr. Bloodgood, Surgical Pathological Laboratory, Johns Hopkins Hospital, Baltimore, Md., enclosing the *x*-ray films or lantern slides of them (if possible the latter) and sections of tissue, if any. Any member of the medical profession interested in the diagnosis and treatment of lesions of bone is invited.

On account of the size of the ballroom the number must be limited to 800.

Those who wish to attend should write the Belvedere Hotel and register, either requesting the usual rates for a single or double room with and without bath, or the special rates for three or more in a room with and without bath, and the special restaurant rates for a club breakfast, luncheon and dinner. You are advised to bring the answer received from the manager of the Belvedere Hotel with you and present it when you register. For any further details in regard to this demonstration, address your letter to Miss Maude Walker, named above.

I am very anxious that this invitation should reach radiologists, surgeons, pathologists, and internists who are interested in the subject but have only rare opportunities to observe lesions of bone. In three sessions of two or two and one-half hours each, on three days, with four lanterns and a very remarkable and educational motion picture, the subject can be presented in an almost unforgettable way, emphasizing the essentials and fundamentals in the diagnosis and treatment of bone lesions. All cases registered for presentation on Wednesday, will be sent later to Dr. Bowman C. Crowell, Director of Clinical Research of the American College of Surgeons, who is Chairman of the Bone Sarcoma Committee. You should become familiar with this registration of sarcoma of bone, if you are not, because you can register all your cases there and receive the diagnosis of a committee, and you can send for groups of bone tumor cases which have been registered, for personal study.

It is impossible except in the largest clinics, for any radiologist, pathologist, surgeon, or internist, to become familiar with the changing clinical, *x*-ray and microscopic pictures of diseases and tumors of bone as they come under observation earlier and earlier after the first injury or first symptom, and to learn how to diagnose and treat them in the best way.

Sincerely yours,

JOSEPH C. BLOODGOOD.

SOCIETIES

DICKINSON COUNTY SOCIETY

The Dickinson County Medical Society met at Hope, July 17. Dr. O. J. Dixon of Kansas City gave a paper on "Fatal Infections following Tonsillitis." Doctor Dixon's talk was very instructive and much enjoyed by the members.

Dr. L. S. Powell of Lawrence gave a paper on the "History of Spectacles" and also showed some lantern slides.

The next meeting will be in Abilene.

DANIEL PETERSON, Secretary.

ANDERSON AND FRANKLIN COUNTY SOCIETIES

Adjunct report of the July joint meeting of the Anderson and Franklin County Societies, at their annual chicken fry of the former society, served at the Richmond Lake Country Club, Garnett, Wednesday, 16th at 7 o'clock p. m.

Twenty-five participants, doctors and their wives of Douglas, Miami and Franklin counties were guests of their neighbors, the doctors and wives of the Anderson County Society. More than half a hundred partook of the hospitality of the club.

The chickens were reported to have started in March and ended there in great golden brown piles of tempting succulence, amidst all and sundry trimmings for such prandial occasions.

The entertainment for the guests was furnished in a delightful reminiscent homecoming talk by one of the deans of the Kansas profession, Dr. J. T. Axtell of Newton.

Boy and man, Axtell, was raised on the Axtell farm northwest of Garnett, where he "Drove home the cows through the long shady lanes," ploughed corn, made hay and sowed wheat and gathered apples and dug 'taters and grew through summers work and winters schools to such adolescence as became youthful schoolmasters of his time. He came to his audience this evening fresh from a ramble over the old farm and down the winds of old Cedar Creek and the old swimmin' hole, and visits to his old haunts and old time friends, not forgetting his old time sweetheart, who, but for her devotion to the rock strewn, cedar crowned hills, which she loved

most, might still be true to him. The dear old doctor had been home.

Home, indeed, and, like the eagle, it had renewed his youth, and brought him up along the morning side of life, through his pedagogic years, up along the steep slopes of his student times and up and over the hill of a successful career in medicine and surgery.

Dr. Axtell was a success. Physician, surgeon, citizen, humanitarian, philanthropist. He gave his hospital to the Christian Church. Now, retired, richly endowed with an experience that will help him to enjoy the satisfaction of his efforts in the alleviation of suffering.

He didn't tell us this. But, instead, standing with his face toward the setting sun, and with the eye of memory looking backward he reviewed the growth of modern medicine, with all that it means to the race. From the mysticism of Æsculapius, through Hippocrates, Galen, Paracelsus, Louis Pasteur, Jenner, to the martyrdom of Walter Reed, he traced the growth of intelligent research to modern thought in medicine.

With a refreshing optimism he swept his vision along the stream of medical thought and prophesied that in the future, as in the past, cults and isms that spring up along the hillsides would find their way, bringing all that was good in them back into the parent stream.

His was a message of cheer for the workers in the harness, and a guerdon of hope to those who are entering the field.

GEO. W. DAVIS, Secretary.

"Guest" Society.

Post Script,

"Eve did it!" Dr. Josephyne saw this report and upbraided the writer for missing one of the most salient points of the talk given by Dr. Axtell. In the beginning of his remarks, the Doctor told us that the reason that he never returned to Anderson County to live was because he met a beautiful brown eyed girl he found in Marion County, who got after him and has never let go of him.

Dr. Axtell's wife, who, too, is a graduate physician was with him, an honored guest of the societies, gave a brief talk, featuring in some measure Woman's Place in Medicine. But, most interesting-

ly telling us how that she and her husband were raising chickens, and how that the Doctor was turning his hand to chiropractic methods in handling them. Especially stretching their necks, about three or four a week now.

MITCHELL COUNTY SOCIETY

The Mitchell County Medical Association has a real live organization with ninety-nine per cent membership and more than two-thirds attendance at their monthly meetings.

The Community Hospital is a great asset to this community, and is bringing in doctors from the surrounding area.

The Medical Institute, under the auspices of the Harkness Fund of New York with Dr. William S. Middleton of Madison, Wisconsin, and Dr. L. A. Calkins of Kansas City, Kansas, distinguished guests, was a great success.

Twenty-two doctors attended the three days Institute, with forty-four the second day. The Hospital served dinner to all visiting doctors, talks were given and a general good time enjoyed.

Dr. Thompson and Dr. Lawrence from St. Louis have had good attendance at their weekly lectures on Internal Medicine, which are under the direction of the extension department of the Kansas State University.

The Crippled Children Clinic held July 1 sponsored by the Rotary Club of Beloit, with Dr. Bence of Wichita director, covered all that could be accomplished in one day. Forty-six patients were examined, covering a varied field of diagnosis and treatments. Dinner was served by the members of the Rotary Club to the members and guests and visiting doctors in the Hospital dining room. The after dinner talks stressed the need of greater interest and needed legislation to provide for these unfortunate children who by early and proper care may become useful citizens.

Mrs. W. T. Lutz was made chairman of the Mitchell County Crippled Children Society.

MARTHA MADTSON, M.D., Secy.

DEATHS

Augustus M. Morrow, Liberal, aged 59, died July 17 of heart disease. He graduated from Keokuk Medical College in 1898. He was a member of the Society.

William John Lewis, Colby, aged 55, died recently at Twin Falls, Idaho, of acute appendicitis. He graduated from Northwestern University Medical School, Chicago, in 1904. He was a member of the Society.

—R—

Dextri-Maltose for Modifying Lactic Acid Milk

Physicians who are partial to the use of lactic acid milk in infant feeding are finding Dextri-Maltose the carbohydrate of choice.

To begin with, Dextri-Maltose is a bacteriologically clean product, unattractive to flies, dirt, etc. It is dry, and easy to measure accurately.

Moreover, Dextri-Maltose is prepared primarily for infant feeding purposes by a natural diastatic action.

Finally Dextri-Maltose is never advertised to the public but only to the physician, to be prescribed by him according to the individual requirements of each baby.

—R—

BOOKS

Allergic Diseases, their diagnosis and treatment, by Ray M. Balyeat, M.D. Lecturer on allergic diseases in the University of Oklahoma Medical School, etc. Third edition. Published by F. A. Davis Company, Philadelphia. Price \$5.00.

The early exhaustion of the second edition of this work has enabled the author to revise it with addition of much new material resulting from the careful researches that have been made in allergic manifestation. The chapters on hay-fever and asthma have been revised and eight new chapters have been added dealing with allergic diseases other than hayfever and asthma, such as eczema, migraine, urticaria and certain forms of mucous colitis.

Physical and Clinical Diagnosis by Dr. Otto Seifert and Dr. Friedrich Mueller, translated by E. Cowles Andrus, M.D., Associate in Medicine Johns Hopkins University. Published by J. B. Lippincott Company, Philadelphia.

This is a very conveniently arranged manual which contains the essentials of

diagnosis. The text has been carefully prepared to meet the requirements of the student and practitioners. It is of the most convenient size with flexible cover and is sufficiently well illustrated.

The Medical Clinics of North America. (Issued serially, one number every other month.) Volume 13, No. 6, and Index Volume. (Mayo Clinic Number—May, 1930.) Octavo of 275 pages with 55 illustrations. Per Clinic Year, July, 1929, to May, 1930. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1930.

In the Mayo Clinic number we have first a discussion of the relationship of blood pressure to hemorrhage in peptic ulcer by Hartman; next is a report of two cases of secondary tumor of the heart by Willius and Amberg. Haines and Kepler present some cases of angina pectoris. Parker shows cases illustrating the respiratory syndrome in epidemic encephalitis. Ziegler presents a series of cases of nervous and mental disturbances. Vinson reports three cases of spontaneous pneumothorax following bronchoscopic aspiration of pulmonary abscess. Snell, Vanzant and Judd describe the complications and sequelae of prolonged obstructive jaundice. Weber described the roentgenologic manifestations of chronic ulcerative colitis. Stacy describes the results following the Kocher operation for prolapsus uteri. Ghrist and Hench discuss the course and prognosis of chronic infectious arthritis. Nickel and Stuhler discuss the prostate gland as a focus of infection in arthritis. There are numerous other articles in this number of the clinics that are quite as interesting and instructive as those mentioned.

Surgical Diagnosis, Volume III and Separate Index Volume, completing the new work by 42 American Authors. Edited by Evarts Ambrose Graham, M.D., Professor of Surgery, Washington University Medical School. Three Octavo volumes, totaling 2,750 pages, containing 1,250 illustrations, and Separate Index Volume. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$35.00 a set.

The third and last volume of Graham's Surgical Diagnosis will be welcomed as one of the outstanding works in this field. Some of the best known surgeons in this country are among the contributors to the volume which covers the lungs, breast, liver and pancreas, rectum, genito-urinary tract, head, spinal

cord, psychoses, peripheral nerves and sympathetic system. It contains almost a thousand pages of text with 1,250 illustrations.

The Collected Papers of the Mayo Clinic and the Mayo Foundation for 1929, Volume XXI. Edited by Mrs. M. H. Mellish, Richard M. Hewitt, M.D., and Mildred A. Felker, B.S. Octavo volume of 1,197 pages with 279 illustrations. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$13.00 net.

The complete file of Mayo Clinic reports now form a considerable library in themselves, there are now twenty-one of them. In this last one it is stated that there were 471 papers from which to make selections. Ninety of these are printed in full, twenty-three are abridged and sixty-eight are abstracted. References only are made to the remaining 290. These papers cover a wide field in medicine and surgery and in making selections an effort was made to choose the material which would be of most service to the general practitioner, the diagnostician and the general surgeon.

The Surgical Clinics of North America. (Issued serially, one number every other month.) Volume 10, No. 3. (New York Number—June, 1930.) Octavo of 265 pages with 123 illustrations. Per Clinic Year, February 1930 to December 1930. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1930.

There will no doubt be considerable interest in the report of Pool and Hipsley on the effects and results of splenectomy in a variety of conditions. Lihenthal shows a variety of interesting cases in his clinic. Gibson discusses the diagnosis of chronic appendicitis. Honan discusses the subject of surgery in certain types of pulmonary tuberculosis. Russell demonstrates an operation for inguinal hernia. Dudley also presents a variety of surgical cases. Gratz presents a series of cases with fractures and dislocations. Sneed and Reading have a clinic on fractures of the spine. Smith presents some thyroid cases. Hurd discusses chronic infections of the nasal accessory sinuses. These particular subjects are mentioned to indicate the wide field covered by the contributors to this number of the surgical clinics.

Diseases of the Eye, a manual by Charles H. May, M.D., formerly chief of clinic and instructor in Ophthalmology Medical Department Columbia University, etc. Thirteenth edition. Published by William Wood & Company, New York. Price \$4.00.

Originally written for a textbook for students and a ready reference book for practitioners this book has continued to meet favor with both. This edition has been revised and considerable new matter has been added. Many chapters have been entirely rewritten. It is profusely illustrated and many colored plates are used.

Physical Diagnosis by Richard C. Cabot, M.D., Prof. Clinical Medicine in Harvard University. Tenth Edition. Published by William Wood and Company, New York. Price \$5.00.

Someone wrote the other day, that physical diagnosis is out of date, that there are now but few competent teachers of the subject and that students were taught to depend upon laboratory methods. At any rate Cabot is still telling us what can be learned by the means nature has given us. In the tenth edition he has introduced some new matter, however, that involves more recent laboratory methods such as electrocardiography. In this edition some new matter concerning coronary disease, cancer of the lung, cardiac asthma, toxin hepatitis and encephalitis lethargica has also been added.

The Long Trek around the World with Camera and Rifle by Richard L. Sutton, M.D., and Richard L. Sutton, Jr., M.D. Published by The C. V. Mosby Company, St. Louis. Price \$5.00.

A birthday party for his son he called it. Just a little trip around the world with a big wild game hunting expedition to make it worth while. Lions, tigers, elephants, a rhino or so, and a few little wild beasts of one kind and another were dropped around promiscuously like—just to add zest to the holiday. Just read it and you will know Sutton wrote it. He writes these stories just as he tells them, but one can take his own time in reading them. One should be sure to look over the illustrations carefully before attempting to read the text, otherwise one will find his attention frequently drawn away from the thread of the story by some startling picture and there are lots of them. It would be a good story even if Sutton hadn't written it.

New and Nonofficial Remedies, 1930. Cloth. Price, \$1.50. Pp. 481; xviii. Chicago: American Medical Association, 1930.

The present edition contains all of the features that have in the past made *New and Nonofficial Remedies* such a reliable and efficient a guide to the physician who wishes to inform himself on the newer medicinal preparations: logical classification of preparations, with authoritative articles on each class; complete and carefully written descriptions of preparations; elaborate indexes; and a useful cumulative list of references to the literature on articles not accepted by the Council. Among the more important revisions that appear in this edition are those of the general articles. Barbitol and Barbitol Compounds, Digestive Enzymes, Cod Liver Oil and Cod Liver Oil Preparations, Ovary, Pituitary Gland, Radium and Radium Salts, and Serums and Vaccines. Among the new preparations descriptions of which appear for the first time in this edition are: Bismarsen, which is sulpharsphenamine bismuth; Dial-Ciba, which is diacetylbarbituric acid; Calcium Gluconate-Sandoz, a more palatable and less irritating preparation of calcium; Atoquinol-Ciba, a cinchophen derivative; Pitocin and Pitressin, solutions respectively of the oxytocic and pressor principles of the pituitary gland; Viosterol (the Council name for irradiated ergosterol) in the forms of Viosterol in Oil 100 D, which is irradiated ergosterol dissolved in vegetable oil, and Cod Liver Oil with Viosterol 5 D, which is cod liver oil with its vitamin D potency enhanced by addition of viosterol. While these new preparations (with the possible exception of Viosterol) do not constitute major additions to the physician's armamentarium, each one gives promise of relative usefulness, and the physician who desires to keep abreast with the progress of therapeutics will familiarize himself with them as well as with the many other new preparations described in this valuable book.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1929. With Comments that have appeared in *The Journal*. Cloth. Price \$1. Pp. 81. Chicago: American Medical Association, 1930.

This is the volume in which the Council annually collects the reports on ar-

ticles found unacceptable during the year. This edition contains also several interesting preliminary reports on preparations which show promise but for which the evidence is not yet sufficient to justify acceptance by the Council. Reports are given on the following products rejected by the Council: Anayodin, claimed to be iodoxyquinolinolin sulphonic acid (chiniofon) but marketed under a noninforming name without adequate statement of composition and with unwarranted therapeutic claims; Antiustio, an unscientific mixture marketed under a nondescriptive name with unwarranted therapeutic claims; Kerasol and Keraphen, unoriginal products marketed under non-informing names; Sodiphene, an unoriginal alkaline phenol preparation marketed under a proprietary name with unwarranted therapeutic claims; Borocaine, procaine borate under a proprietary name; Quicamphol (Transpulmin), a quinine preparation for intramuscular injection in the treatment of lobar pneumonia; Toxogon, a preparation of inadequately declared composition marketed under a therapeutically suggestive name; Intramuscular Iron Arsenic Comp. (No. 201) and (Intravenous) Iron Cacod, and Glycerophosphate (No. 202), two irrational and unscientific mixtures exploited with emphasis on the numbers. Other rejected products are: Ovoidin, Tamerici Salts, Elixir Kaeyan-McNeil, and Tablets Kaeyan-McNeil. An authoritative article on serum disease and serum accidents by MacKenzie and Hanger is of considerable interest and timely importance.

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History of Haitian Medicine—By Robert Parsons, Lieut.-Com. M.C., U.S.N. Published by Paul B. Hoeber, Inc., New York.

Dr. Parsons was my room-mate in college. We went through medical school together. We lived in Boston together. When I was first married, Bob lived in our house with us. I know all about him. And in spite of this, I like him. I like him very, very much.

I like him partly because he knows so much. And he is able to tell about what he knows in a very accurate and at the

same time interesting way. Probably no other medical man alive knows as much about Haiti as Bob Parsons. Certainly no doctor is as well known to the people of Haiti as Bob. Those who liked Seabrook's *Magie Island* will recall that the author speaks frequently of Dr. Parsons and how he trailed through the mountains and villages of Haiti and how the natives came to him and were studied by him. If you want to read a story about the most interesting small island in the Western Hemisphere, written by a man who knows the island and knows the people and probably knows as much about the yaws problem as any living physician, you ought to read this book. It doesn't cost much and it is worth having. After you have read it if you don't agree with it send me your copy and I will send you what you paid for it. I just as soon have a few dozen copies on hand anyway. They will appeal to any thoughtful reader who is interested in the history of medicine or in Haiti.

KARL A. MENNINGER.

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The Seal of the Council on Pharmacy and Chemistry and of the Committee on Foods

The seal may be used in advertising in circulars and on packages after acceptance of the product is announced. The seal, if it appears on the package, must be the only seal of such character and must not appear in conjunction with the seals of any other investigative organization. The seal is to be used without any comment by the advertisers, unless such comment has been submitted to the council or the committee and approved by them. Should the product, for any reason, become unacceptable, all use of the seal must be discontinued within six months. Only the seal authorized by the body accepting the product shall be used in advertising the product. Products exempted by either the Council or the committee shall be permitted to be advertised in publications of the American Medical Association but the use of the seal shall not be granted in connection with such advertising. (J.A.M.A., May 3, '30.)

A Post Graduate Week of Physical Therapy To be Conducted By The American Congress of Physical Therapy

Announcement is made of "A post graduate week of physical therapy" in conjunction with the ninth annual scientific session of the American Congress of Physical Therapy, to be conducted September 8 to 12, inclusive, 1930, at the New Hotel Jefferson, St. Louis, Mo.

An intensive post graduate week of physical therapy is promised. Elaborate plans have been perfected for teaching, demonstrations and clinics. The physician who is interested in physical therapeutics and who has not had any instruction in the work will find the lectures on the fundamentals a sound basic means for further study. The more experienced, on the other hand, will gain considerably from the advanced expositions on light, heat, electricity, massage and all the other physical agents utilized in practice. Every phase of physical therapy will be covered. The subjects will be general and specific and so varied as to appeal to both the general practitioner and the specialist.

While it is appreciated that a week is a rather short period for post graduate teaching, the systematic arrangement of the program makes it possible for the physician to attend only those sessions in which he is vitally interested. As has been the practice in the past, sectional gatherings will prevail in medicine, surgery, and eye, ear, nose and throat. Several of the afternoons and evenings will be given over to addresses by prominent guests. There will be symposia on "Education and Teaching of Physical Therapeutics" and on "The Relation of the Physician and the Technician in Office and Hospital Practice."

New features in the conduct of clinics and demonstrations will be observed. In fact, so many new features have been arranged that they cannot be enumerated here. The preliminary program will be issued within a short time. Full information and details are contained in it.

Rules of the Committee on Foods

The committee on foods of the Council on Pharmacy and Chemistry publishes a revised statement of the information which should be submitted to the committee by manufacturers who wish their food products included in the book "Accepted Foods." The committee will consider all food products for which health claims are made as coming within its purview. If the health claims made are satisfactory to the committee, in view of the composition and process of manufacture, the committee will accept the product for its book "Accepted Foods," and will grant to the product the use of the seal of the committee. If the product is found to be outside the scope of the committee in that no health claims are made for it, and if the product and the advertising are otherwise satisfactory, the product will be exempted. A list of exempted products will be published in the book "Accepted Foods," and such products will be permitted to be advertised in the publications of the American Medical Association. A list of rejected foods will be published in the book "Accepted Foods" together with the reasons for such rejections. Rejected products will not be permitted to advertise in any publication of the American Medical Association. Infant foods, whether health claims are made for them or not, are considered to be within the scope of the committee's consideration. (J.A.M.A., May 3, '30.)

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Prize for Goiter Thesis

Beginning this year the American Association for the Study of Goiter will award a cash prize of \$300 annually for the best original thesis dealing with some phase of the goiter problem. Theses should be submitted by June 1, to Doctor Walter M. Simpson, Chairman of the Essay Committee, Miami Valley Hospital, Dayton, Ohio. The award will be given immediately following the coming meeting of the Association which is to be held in Seattle, Washington, July 10-12, 1930.

JUST TO REMIND YOU

If you change your address or if the Journal is not delivered to you regularly please send a card directed to The Journal of the Kansas Medical Society, 700 Kansas Avenue, Topeka, Kansas.

If you are threatened with a suit or a suit has been brought against you for malpractice, write to Dr. O. P. Davis, Chairman of Defense Board, 917 North Kansas Ave., Topeka, Kansas.

If you want to buy instruments, office supplies or equipment, drugs or chemicals, books, or anything else, look through the advertisements in the Journal and if you don't find what you want write the Journal office and an effort will be made to find it for you.

If you have neglected to pay your dues for 1930, write the secretary of your county society and send a check for the proper amount to him.

If you move from the county in which you hold membership into another county in which there is a county society you should present your card to the secretary of that county society and send a notice of your removal to the secretary of the State Society, Dr. J. F. Hassig, 804 Huron Building, Kansas City, Kansas.

THE JOURNAL

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Problems of Cancer

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As I will show in the lantern slides, from actual pictures taken, from the literature up to 1890, and from our own illustrations since 1900, the evolution of cancer of the breast from a tumor can be not only seen in a photograph, but can be diagnosed malignant, and in some instances hopeless, from the photograph, to a tumor that can be seen and not diagnosed, to a tumor of the breast which, although it does not show in the photograph, can be recognized when exposed by its naked-eye appearances as benign, or malignant, to finally a tumor of the breast which does not show in the photograph, which cannot be differentiated at the exploration from its fresh appearance, but which can be distinguished as benign or malignant in the space of less than ten minutes from an immediate frozen section specially stained, and even, in rare instances, to a stage beyond this, in which the cells of the tumor palpated in the breast and easily distinguished from the surrounding breast when exposed at operation, but which cannot be distinguished as benign or malignant cells by the most expert pathologist. For these cells in this early stage of tumor formation we require a special stain which will differentiate the cell that is not cancerous from the cell that is cancer.

Mr. Francis P. Garvin, president of the Chemical Foundation, fourteen months ago built the Garvin Experimental Research Laboratory next to the Surgical Pathological Laboratory, and gave the funds for its maintenance. Research has been going on since October, 1929.

THE EFFECT OF EDUCATION

The chief factor in this evolution of a breast lesion from one that can be easily

recognized clinically to one that is difficult to recognize microscopically has been due to the enlightenment of women on the earliest warnings of trouble in the breast, and the importance of seeking an immediate examination by a member of the medical profession.

It is interesting to note that this was prophesied by Sir James Paget, the most eminent surgical pathologist of England, in about 1860, seventy years ago. Paget described a form of cancer of the breast called Paget's cancer of the nipple. When Paget and his colleagues saw these patients, the cancer of two or three years' duration was in a hopeless stage. Sir James records that, in his opinion, these women would have had a good chance of a cure by simpler means of treatment had they reported to some physician the moment they had observed the irritation or eczema of and about the nipple. This has actually happened in the past few years.

The study of the literature up to 1890 shows that the majority of women with a cancerous tumor of the breast sought the advice and help of the medical profession, with the rarest exceptions, in a hopeless and inoperable stage, and, even when a few came to a surgeon with a lump in the breast undoubtedly malignant, no surgeon at that time had conceived the proper radical operation, although there was anesthesia, and, from 1865, Lister's antiseptic surgery, and although many surgeons previous to 1890 were skillful enough and experienced enough in operation to have easily performed the radical operation for cancer of the breast, which was conceived and executed by William S. Halsted, later professor of surgery at Johns Hopkins, in 1889.

Halsted's first report, based on fifty cases of cancer of the breast, appeared in 1895. This was the beginning of the education of the surgeon. It required

more than twenty years before it was recognized as the established and standardized operation for cancer of the breast in all stages, early or late.

CANCER AS OBSERVED IN THE JOHNS HOPKINS HOSPITAL FROM YEAR 1889 TO 1900

This hospital became rapidly known throughout the United States. Within the first year, among the physicians sending patients to Johns Hopkins, the extent and safety of Halsted's complete operation for cancer was disseminated, and within the first six years there were more than one hundred patients with cancer of the breast admitted to the clinic; in fifty of these the complete operation was possible, and at the end of three years fifty per cent were living. No such results had ever previously been reported. There was the same element of error in Halsted's statistics as was present in all other reports of the great clinics of the world. Three years was too short a period on which to estimate a cure, and a number of the patients recorded as cured had lesions which resembled cancer clinically, in the gross and microscopically, but which later, on study and intensive investigation, proved not to have been cancer.

By 1900 we knew that more than fifty per cent of the women observed in the Johns Hopkins Clinic were in the hopeless stage of cancer, and less than twenty per cent of those upon whom the Halsted operation was possible, were living and free from the disease at the end of five years. We also knew that out of every hundred women with a lesion of the breast, eighty per cent had cancer, and a little more than nineteen per cent were not cancer when the tumor was studied microscopically after its removal, and in less than one per cent the condition of the breast was recognized as not only benign, but one for which operation was not indicated.

CONTRAST OF LESIONS OF THE BREAST AS OBSERVED IN THE FIRST DECADE UP TO 1900, WITH THOSE ON RECORD SINCE 1900, THE FOURTH DECADE

These figures offer the most encouragement for the partial control of cancer in the human being. They rank next to the figures in regard to cancer of the

skin and mouth. We may briefly state here that cancer of the skin and mouth should ultimately disappear among enlightened men and women who are not afraid of being examined the moment they are warned.

Briefly, since 1900, the actual incidence of cancer among one hundred women has fallen from eighty to seventeen per cent; the inoperability among these seventeen per cent is less than five per cent, while that among the eighty per cent of the first decade was more than eighty. The actual five year cures have increased from less than twenty per cent in the early decade up to 1900 to more than fifty per cent among those operated upon up to 1925, five years ago. The benign lesions of the breast for which operation is not necessary and which also has not been done, have increased from less than one per cent to more than sixty-five; we cannot say that this group of women who sought advice the moment they were warned and who were operated upon, have been protected from cancer of the breast, but at least they have not lost one or both breasts unnecessarily, and perhaps they run a little less risk of cancer. This for the reason that, in the first place, all of them, who have borne children have had a pelvic examination and all pre-cancerous pelvic lesions have been removed. In addition, they have had a periodic examination, and, the majority, a conversation and a pamphlet increasing their knowledge of the first warnings of the disease, of the necessity of periodic examinations, and, as a rule, an influence decreasing their fear and increasing their confidence in the medical profession.

The study of benign tumors of the breast which have been subjected to operation from 1889 to 1930, a period of more than forty years, shows, first, that the relative frequency of these benign tumors has steadily increased from less than twenty per cent to more than fifty per cent. We have ample evidence that some of the benign tumors of the breast are distinctly pre-cancerous, and their recognition and removal in the benign stage not only allows the breast to be saved, but protects the patient from can-

cer in this tumor. There is no question that this is true for the malignant tumor sarcoma arising in the intra-canalicular fibromyxoadenoma of the breast, because sarcoma of the breast has been observed in only a very few instances since 1920, while it was relatively frequent before 1900. In the first decade malignancy in the intracystic papilloma of the breast was common, while the benign papillomatous cyst was very rare. The reverse is true since 1920, the malignant papillomatous cyst has become almost unique. The removal of residual lumps after mastitis in lactation, whether acute or chronic, whether an abscess or not, has saved a number of lives, because these residual lumps, formerly neglected, came under observation in the early years of the clinic from ten to thirty years after their onset, and always were the seat of cancer, and in every instance they were operable, the glands were always involved, and none of these patients were recorded as even five-year cures.

We can briefly state, then, that the records of the Surgical Pathological Laboratory show that education alone has increased the five-year cures from less than ten to more than fifty per cent; has decreased the incidence of cancer in definite palpable lumps from eighty to fifty per cent; has actually protected a number of women from cancer of the breast by the removal of benign tumors which were pre-cancerous, and by advising the early treatment in any irritation of the nipple—hot water and soap, medicated alcohol, applied with cotton, followed by vaseline, held in place by gauze and adhesive plaster.

CONTRAST OF THE RESPONSIBILITIES AND DIFFICULTIES OF THE SURGEON PREVIOUS TO 1900 AND SINCE 1920

Valpeau, the great French surgical pathologist, made very few mistakes when he classified breast lesions without the aid of the microscope; by the clinical history, the palpation of the breast, the seat of the disease, and the gross appearance of the involved breast removed at operation. The literature from Velpeau to 1900 adds very little, even with the aid of the microscope, to

the fundamental observations of this acute French observer in 1840.

In 1888 I was first introduced to the microscopic pathology of cancer of the breast. Dining with a friend of the family, I was asked to look through the microscope at a frozen section from a breast tumor which had been removed that day by Dr. Nicholas Senn, of Milwaukee Passimont Hospital. The section was made by Dr. Mackey, a surgical colleague of Dr. Senn, who was a graduate of the Edinborough School of Medicine, and who largely helped Dr. Senn in writing and illustrating Senn's book on Surgical Pathology. This volume was the recognized text book of Surgical Pathology for a number of years. It held first place with the book by Warren, professor of surgery at Harvard. I remember Dr. Mackey saying to me, "Joe, I told Senn that the tumor he removed this morning would prove to be malignant." That was a clear demonstration that at that time Senn had operated upon a breast tumor which he had been unable to make a diagnosis of clinically or from the gross appearance. I have no proof, of course, that Dr. Mackey was right in his diagnosis, but it was an example of a border-line tumor which, until 1920, was a rarity.

During my study of medicine in Philadelphia, from 1888 to 1902, no surgical pathology was taught us, although both Agnew and Ashhurst had written text books in which the breast tumors were discussed. In Agnew's System of Surgery there was a great deal on the gross pathology of the various lesions of the breast. In 1890 Professor Agnew, at his last clinic, told us that he had never cured a cancer of the breast. There is a painting in the University Hospital at Philadelphia, of Agnew holding the breast he had just removed, and J. William White is closing the small wound. I can remember this incomplete and rapid operation for cancer of the breast as practiced by professors Agnew and White. We could see from the benches the ulcerated tumors. No one questioned their malignancy. As far as I know no one made microscopic sections of them. Professor Ashhurst did the same incom-

plete operation, but often discussed the question whether the glands should be removed. Once, and once only, I witnessed him remove the glands in the axilla. He put his hands in the axilla, grasped a mass of fat, clamped above, and removed the mass. It is important to record here that in 1887 I witnessed Senn perform a very slow and careful dissection of the breast with the axillary contents, but without removing either the fascia or the pectoral muscle. I gather that Professor Warren at Harvard was following the same procedure as Senn, and this operation of the removal of the breast and glands was the operation of choice by the ranking surgeons in Europe. Professor Wheeler, of the University of Vermont, in a publication previous to 1900, must have been familiar with it and practiced it. Some of the English surgeons who came to this country called it Lister's operation for cancer of the breast. This was based on correspondence on file in the older records of the laboratory. It shows how difficult it is to get the attention of your colleagues for a new and more radical procedure for cancer, because, when Halsted published in 1895, the majority of surgeons in this country and abroad would not at first believe his results, and were not convinced that both muscles should be removed in the complete operation for cancer of the breast. It was my good fortune to be closely associated with Professor Halsted for seven years, from 1893 to 1900, and I am quite familiar with the difficulties of the surgeon during the first decade up to 1900.

The difficulties were surgical and not pathological, and very seldom clinical. With the rarest exceptions, the women who came to Johns Hopkins previous to 1900 had delayed from one to two years after palpating a lump. The majority of lumps were distinctly benign or distinctly malignant. There is a record of but one frozen section made at the time of the operation in the first ten years. In that instance Halsted had recognized the lump as benign from its gross appearance, he had removed the encapsulated tumor, save the breast, and had actually left the hospital before Pro-

fessor Welch brought the report from the pathological laboratory, which was at least a ten minutes walk from the operating room.

Our chief difficulties were surgical, to carry out Halsted's painstaking, clean dissection of everything in the axilla, and employing clamps in such numbers that there was no hemorrhage. In those ten years we had less infections of our wounds than since the pandemic of the "flu" in 1918. We never had better ether anesthesia; we developed the perfection of skin grafting; lymphoedema was a rarity; and there was only one temporary monoplegia due to the assistant holding the arm and overstretching it. I know of no improvement in the detailed technique of Halsted's complete operation for cancer of the breast, or the method of closing the wound since 1900. Nor are the permanent results any better, except those which can be explained by a larger per cent of earlier cases. When the apex glands are involved, the five year cures were ten per cent then, and they are ten per cent today. The employment of alcohol sponges during the dissection of the axilla, the use of the cautery, endothermy needle or coagulation, pre and post-operative radiation, have not increased the number of five-year cures in this group. Up to 1915 the material in the laboratory showed eighty-five per cent of five year cures when the glands were not involved microscopically. Now, that we have removed the border-line breast tumors which, we have decided, are not malignant, the five-year cures are reduced to seventy per cent.

In those first ten years we began to observe earlier stages of malignant tumors, and now and then we found difficulty in detecting slight retraction of the nipple, slight fixation or dimpling of the skin, and we observed for the first time atrophy of the subcutaneous fat as the earliest sign of cancer. Rarely did we explore a malignant tumor. When this happened, Halsted, who was a trained pathologist of the first rank, recognized cancer in the gross. During the first ten years there was but one example of an incomplete operation for cancer of the

breast. In this instance Halsted explored a smooth-walled cyst filled with blood and without papilloma. The complete operations for the benign lesions were very rare previous to 1900, and increased in frequency after 1900, simply because the per cent of this type of lesion, after 1900, increased more rapidly than our ability to recognize it. In this first decade, on one occasion we explored a breast because of discharge of blood from the nipple without a palpable tumor. Dr. W. W. Keen, of Philadelphia was present. After many exploratory incisions the breast was removed. In the laboratory, after a long search, I found a minute papilloma. On another occasion we explored a zone of breast of a nurse because of a localized spot of pain and tenderness. As we could find no tumor and no evidence of any disease, a piece of the breast only was removed. Later the microscopic section showed normal breast. In a few instances, when we exposed Schimmelbusch's disease, dilated ducts beneath the nipple, or multiple cysts in chronic cystic mastitis, or non-encapsulated adenoma, or chronic mastitis without pus, the complete operation for cancer was performed, and in some instances a provisional diagnosis of malignancy made. Nevertheless, during those ten years of Halsted's clinic we gained and recorded not only the technique of the complete operation, but vast experience in palpating breast lesions, in the naked-eye appearance at the exploratory incision, and the study of the fresh appearance of the tissues removed, and, later, in the laboratory, the microscopic studies. It required, however, fifteen more years of intensive microscopic study and submission of these sections to other pathologists, to recognize the border-line breast tumors that had been recorded as some form of cancer, and without metastasis to the glands, and, in addition, the patients in this group never returned with a recurrent tumor, or died of cancer, and did not return with cancer of the remaining breast any more frequently than any other woman who had never had cancer of the breast.

In the second decade, between 1900 and 1910, and much more frequently in

the third, between 1910 and 1920, we observed new difficulties, none of them operative. The problem of the operative treatment of breast tumors was settled. The difficulties were, first, clinical; second, in the gross appearance, and by 1915 we were compelled by the change in the character of the material to adopt frozen sections as a routine in the operating room.

As I have said our difficulties were, first, clinical, find the tumor in a normal breast, in a shotty breast, in a lumpy breast that follows lactation; to recognize the dilated ducts beneath the nipple; to learn from study and restudy of the material that discharge from the nipple of one or both breasts is not of itself an indication for operation; to learn that pain is of no value in diagnosis; to learn that pain is aggravated by the fear of cancer, when you relieve the patient of fear, the pain is relieved also; to learn to look at the nipples in every case, if there is the least irritation of any kind, to first try cleansing and protection as already noted; if this fails, to excise the nipple, under local anesthesia, and make a frozen section.

When palpation discloses a definite tumor, the next increasing difficulty is the differentiation of that tumor by its gross appearance or in a frozen section. We must conclude today that it is safer to employ frozen sections as a routine. We have developed in our operating rooms today special anesthetics for all the different kinds of anesthesia, and technicians who are able to give safely blood transfusions. However, the operating rooms of this country are not equipped, as they should be, with technicians capable of making immediate frozen sections and pathologists who can differentiate the benign from the malignant. When women report for examination the moment they observe pain, or see a discharge from the nipple, or an irritation of the nipple, or think they feel a lump, members of the medical profession will come in contact with larger and larger numbers of chronic cystic mastitis. This disease usually disappears spontaneously. The longer women wait, the more rarely do we see this dis-

ease. Velpeau and Billroth were familiar with only the multiple cysts in the breast. Up to 1919, I had observed only two cases of Schimmelbusch's disease. Today, I see a hundred or more examples in a single year. We must learn to recognize Schimmelbusch's disease, or the shotty breast, the multiple lumpy breast due to definite or indefinite tumors, and worm-like tumors beneath the nipple, for which operation is not necessary. Nevertheless, today, in many clinics hundreds of women are losing one or both breasts, either because the disease is not recognized, or is looked upon as a pre-cancerous lesion. When tumors are explored the malignant cyst should be distinguished from the benign cyst by its gross appearance. The contents of the malignant cyst is either blood without a papilloma, or thick, grumous material. The contents of the benign cyst is clear, or cloudy serum or milk. The papillomatous cysts, either benign or malignant, are more difficult to differentiate—both contain blood, in both the papilloma within the cyst may resemble cancer even in the frozen section. But when we make frozen section, the breast tissue forming the wall of the benign tumor may suggest, even to a well trained pathologist, a suspicion of malignancy, or even well-defined cancer. The majority of non-encapsulated adenomas are ultimately operated on for cancer or "cured" of cancer by post-operative radiation after the removal of the tumor. The older a benign encapsulated tumor is the more difficult it is to differentiate it from cancer in the microscopic section. Apparently the pressure of the stroma destroys the basement membrane, and the dormant benign epithelial cells are seen in nests surrounded by fibrous stroma. This appearance is most marked in the calcified fibroma, and we have never observed calcification in cancer of the breast. The increasing difficulties, then, since 1900, are, first, to distinguish the lump which should be explored, and, second, to differentiate by a frozen section the benign lesion which can be removed and the breast saved, from the malignant, which should be treated by the complete operation for cancer.

Gastric and Duodenal Ulcers

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The knowledge obtained as a general surgeon from clinical experience limited to a small group of patients is not sufficient to justify an attempt to credit or discredit any of the prevailing controversial theories concerning the etiology and pathogenesis of peptic ulcer. However, I am sufficiently interested in the results of my own work, and in the results obtained by others, both clinically and experimentally, to develop to a greater degree a discriminating appreciation of the relative therapeutic values of the various surgical and medical procedures.

My object in writing this paper and presenting it here is primarily a selfish one, namely to stimulate a greater interest in reviewing the literature on the subject for my own personal improvement, and to obtain through discussion valuable information from you who possess greater knowledge because of your experience and study, and thus to fit myself to contribute more efficiently to the welfare of my patients. It is my conviction that a thorough and comprehensive knowledge of the various features of this subject will add to our interest and enhance our power of observation, and thus enable us to treat more rationally and intelligently the cases which come under our care.

In the consideration of gastric and duodenal ulcers the pathology, both anatomical and histological, provides one premise upon which there is probably no justifiable disagreement, particularly among surgeons and pathologists. Anatomically the character of the ulcer is that of a round or oval circumscribed indurated mass, somewhat irregular in outline, with borders thickened and hard. As a result of greater invasion of the mucosa than the underlying structures the mass is often described as cone shaped with the apex toward the peritoneum. It has also been observed that the extension of the ulcer proceeds at right angle to the long axis of the stomach, thus following the course of the blood vessels.

Histological examination of the initial lesion and of the ulcer in its various stages of development reveals degenerative changes in the cells, necrosis of the mucosa, localized hemorrhage, cellular infiltration of embryonal connective tissue, edema, thrombosis of the vessels, endarteritis, and general inflammation of the lymphoid follicles at the base of the glands, resulting in their separation and destruction.

We still lack unanimity in our conception of the cause and the mechanism of the development of peptic ulcer, notwithstanding the large number of clinical records as well as laboratory reports and experimental observations on animals, which have been tabulated and carefully studied. In my discussion of this feature of the subject I wish to refer briefly to only a few of the most plausible theories, and which are based partly or wholly on clinical, experimental, and pathological findings.

For many years the leaders of the medical profession who were particularly interested in the study of this subject attributed the cause of ulcers to dietary indiscretion. That foods ingested were too hot, or too greasy, not properly prepared, or too coarse so that they mechanically irritated the stomach mucosa, and meats which through their stimulating effect developed hyperacidity. In support of this theory, ulcers in appearance and behavior like peptic ulcers have been produced experimentally by feeding hot gruels. Statistics also show a preponderance of ulcers among cooks and meat eaters. Natives in India, the Rhone Valley, and the Bavarian Alps who are essentially vegetarians are practically free from ulcer.¹ Whether we accept this theory or not we must recognize the fact that in most of the ulcer cases there is present a high degree of acidity, and that acid neutralizers do give relief. We have reasons to believe from clinical observations and experimental evidence that there are other conditions in the body which are responsible for the production of the initial lesion, and that hyperacidity is the result of the irritation in the lesion. Perhaps the lesion is first responsible for pyloro-

spasm and food retention in the stomach and as a result of the prolonged contact of food with the stomach mucosa hypersecretion results.

Walter Hughson² of Johns Hopkins Hospital found that irritation anywhere in the peritoneum tends to delay emptying of the stomach in a dog. He reasoned that the impulses were carried through a reflex arc of which the vagus was a part and thus produced spasm of the pyloric sphincter. After dividing the vagus he found that the emptying time was more rapid following the same degree of injury.

As a result of the study of the localized anemia and thrombosed vessels in the ulcerated area the circulatory theory was proposed. Arguments against this proposition have been based mainly on clinical records which show that ulcer develops as a rule before the passing of middle life, which is before general vessel changes take place, and that ulcer does not necessarily develop because of cardio-renal changes, or because of other degenerative changes as a result of specific infections.

The neurogenic theory has had a substantial following, especially in Germany. The proponents of this theory reasoned that the vagus and the sympathetic fibres from the celiac plexus lacked physiologic balance as a result of some irritability of the vegetative nervous system, consequently hypersecretion, hypermotility, muscular spasm, blood vessel spasm, and trophic changes. The supporters of this theory take into account the endocrine system and assume that this controls to a large degree the autonomic nervous system, and as a result of an endocrine imbalance this becomes a factor in ulcer production.

Approaching the problem from this angle requires a more comprehensive knowledge of the emotional state of the patient since it has been conclusively demonstrated that the emotions of joy, worry, fear, grief, etc. do produce both increased and decreased activities of the stomach.

The spasmogenic theory of Bergmann has attracted the attention and support of radiologists. In an attempt to prove

this theory, ulcers have been produced by the administration of drugs which caused violent contractions of the gastric musculature, and it was reasoned that this produced a kinking of the blood vessels, resulting in a localized anemia. The sulcus angularis, the mucosal apron, which hangs down from the lesser curvature between the fundus and the pylorus is particularly susceptible to anemic areas.

The infection theory is, I believe, the most universally accepted, especially in this country. This theory presumes that the organisms which produce ulcer exist elsewhere in the body primarily, and that the most common sites are in the teeth, tonsils and the sinuses. Rosenow and his co-workers and followers have demonstrated that these organisms have elective affinity for certain tissues. The surgeon is prone to accept this theory on the basis of his study of the personal histories of his cases which invariably show that the foci of infection existed somewhere in the body prior to the development of ulcer symptoms. Support to this theory is also given by the findings of the research workers through animal inoculations with cultures made from pus from various foci.

One of the recent speculations is the vitamin theory as proposed by Galvin J. Gonzales³ in his treatise "A New Pathogenesis and Treatment of the Gastro-duodenal Ulcer." This is a support to the proposition that ulcer is more common in civilized countries because of complicated diet and defective food articles. Other theories could be mentioned which have been proposed to account for ulcer production, some of these are fairly rational and supported by conservative observers, while others are purely the products of imagination.

The diagnosis of peptic ulcers in well developed and uncomplicated cases is comparatively easy, but in the early stages and when complications cloud the picture diagnosis is often most difficult. Of very great importance is a complete and accurate personal history of the case. In a diagnostic survey of the abdomen we should always bear in mind that the stomach group of symptoms such as nausea, epigastric pain, a burn-

ing sensation, acid eructations, a sensation of fulness, etc. may be encountered as a reflex manifestation of lesions of almost any abdominal viscera, as well as lesions of other organs. In my opinion no clinical picture of lesions of the abdominal viscera stands out quite as definite and clear cut as that of peptic ulcer when all the diagnostic factors are properly assembled. The elements of chronicity, periodicity, meal relation, food ease, and seasonal incidence must be given due consideration. The disease is not self limited. The distress recurs periodically with definite relation to food intake. Food of the proper kind and acid neutralizers relieve the distress, and the history shows a tendency to seasonal exacerbations.

The appearance of pain with reference to time after taking food is a point of differential diagnostic value, but of greater value is the rhythm as pointed out by Moynihan, namely that in gastric ulcer there is a quadruple rhythm, *i.e.* food, comfort, pain, comfort, and again food, comfort and so on, while in duodenal ulcer there is a triple rhythm namely, food, comfort, pain, and again food, comfort and pain. Vomiting occurring in these cases is usually preceded by pain rather than by nausea. As a matter of course and of record, as well as the information obtained analysis of the stomach contents should be made.

Roentgen-ray examinations are positively necessary for quality service. By means of fluoroscopy and radiograms definite information may be obtained relative to the size, shape, position, and motility of the stomach. Valuable indirect evidences of gastric and duodenal ulcers are the incisura which is a drawing in of the circular fibres in the ulcer segment of the stomach as a result of the irritation in the ulcer; the spastic hour glass contraction resulting from spasm of a large segment of muscle, and pylorus-spasm which interferes with stomach evacuation. Quoting Carmen, "Six hour retention of meal in stomach means trouble in the abdomen, most commonly stomach ulcer or cancer. If there is an unbroken contour of the stomach with retention and hyperperistalsis, duodenal

ulcer is practically certain." A quotation from Moynihan, "Deformities of the duodenal bulb are as certain indications of ulcer as are the niche and notch in cases of gastric ulcer."

The complications and sequelæ most generally encountered in ulcer cases are hemorrhage, perforation, and cicatricial contraction. Profuse hemorrhages are more apt to occur from gastric ulcers situated on the posterior wall, or on the lesser curvature on account of the generous blood supply. Acute perforations are always serious, and delayed treatment is usually tragic. When they occur on the posterior wall or on the lesser curvature adhesions usually take place with the retro-peritoneal structures, but it is more unfortunate when the stomach wall perforates anteriorly since adhesions can not form on account of the mobility of the parts. Cicatricial contractions causing deformities and obstruction demand surgical treatment, but ordinarily they are not emergencies.

The treatment of ulcer though more or less empirical is, nevertheless, based on the sound principle of physiological rest. Rest not only to the organs involved, but to the body and mind as well. The removal of all foci of infection should be a procedure in every case. Elimination of toxins and endogenous waste products should not be disregarded.

The choice of treatment depends upon several factors such as the age of the patient, duration and severity of symptoms, recurrences, temperamental state of patient, economic condition, etc. As a general rule a young patient with slight or moderate symptoms of short duration with little or no obstruction and no food retention should have the benefit of medical treatment.

The principal factors in the medical treatment of ulcers are rest, diet and alkali. The diet is very important since the patient must be nourished. Rough and irritating foods which have a traumatizing effect upon the ulcer should be avoided. Milk alone or with eggs in small amounts and frequently administered as suggested by Lenhartz, Sippy and others, has been a diet of choice al-

most universally, and satisfactory results have been obtained. In addition to milk and eggs, alkalis such as soda, magnesium and bismuth are given for the acid neutralizing effect, and opium, belladonna and bromides for the antispasmodic effect. The introduction of a duodenal tube which is retained for a week or two for the purpose of introducing liquid nourishment at frequent intervals is recommended by Einhorn. Warren Coleman's diet is based on the fact that fats are not digested in the stomach, and that they do not excite secretion; that they leave the stomach slowly and form a protective coating to the ulcer. Olive oil and fresh unsalted butter are the fats of choice. White of eggs are given to supply the protein need; cereals to supply carbohydrates and glucose and salt given per rectum. No food into stomach for three to five days preceding the treatment during which time glucose and salt solution enemas are relied upon to sustain the patient.

Hugh MacLean⁴ reports excellent results in the treatment of 350 patients by intensive alkaline medication. He prescribes six or seven drams daily of the four carbonates: sodium, magnesium, calcium and bismuth. The amount of bismuth and magnesium is varied according to bowel evacuation requirements.

The Smithies method of treating peptic ulcer, I wish to give more in detail.⁵ Briefly, the procedure is as follows: Rest in bed from one to three weeks; for the first three to five days the patient is given no food into stomach, during this period rectal alimentation being relied upon to sustain the patient. The patient is instructed to chew paraffin wax for at least ten minutes every hour. This keeps his mouth clean, promotes the flow of saliva, and aids in counteracting the development of painful hunger contractions and gastric spasm. When feeding per mouth is begun small amounts of carbohydrates in liquid form are frequently given, and in some cases these are introduced through a duodenal tube into the duodenum. Barley water, rice gruel, thin cream of wheat, malted milk

and thin creamed vegetable soups are very satisfactory. Milk is not given unless it is boiled, citrated or predigested.

The last method referred to is, in the opinion of the writer, the most commendable one from the standpoint of physiology. By this method rest and nourishment can be provided to a maintenance requirement without the administration of milk and alkalis. The objection to the use of milk in the dietary is based on the observation that the protein clots from unmodified milk tend to produce high acid secretion.⁶ The chief objection to the use of alkalis is that the normal habitat of the gastric epithelium is an acid or at the most a neutral medium. Clinically it has been shown that large doses or prolonged administration of alkalis have resulted in enormous secretion of acid and mucus, and the development of gastritis in certain cases. Blood chemistry under alkaline ulcer regimen as reported by Hardt and Rivers⁷ is to the effect that blood urea may increase six times, blood carbonates double, and creatinin increase more than one hundred per cent.

Satisfactory results may be obtained by the employment of any of the accredited medical treatments if prolonged and under favorable conditions provided care is exercised in the selection of patients which properly belong to the medical group. Many disappointments and failures are apt to follow ambulatory and haphazard methods.

There is a group of ulcer cases between the medical and surgical groups which might be termed the border-line group. It is rather difficult to classify the patients in this group for the purpose of treatment consequently many failures. The therapeutic disappointments in this group have been responsible for most of the dynamite used in heated discussions between surgeons and internists in regard to the relative merits of medical and surgical treatments for peptic ulcer.

The cases which require surgical intervention are those with large ulcers, and of long duration; cases with repeated recurrences after accredited medical treatment; obstruction with prolonged

evacuation time and great dilatation of the stomach and deformities; acute perforations, profuse and repeated hemorrhages, and severe and persistent pain from local peritonitis or perigastric or periduodenal adhesions as a result of chronic perforation.

In acute perforations the time element factor must not be disregarded since every hour of delay of treatment adds to the gravity of the cases. It is advisable in a number of these cases to limit the surgery to simple closure of the aperture, particularly in the cases where there is only a moderate degree of obstruction present. Deaver insists on combining the closure with gastro-enterostomy as a routine procedure. When the shock is not too profound, and the condition of the patient warrants more extensive surgery the ulcer may be excised by knife or cautery combined with gastro-enterostomy.

In the non-perforating and obstructive type of ulcer the surgeon has the choice of a number of standardized surgical methods. Among these gastro-enterostomy is perhaps the most universally employed, principally because of its simplicity of performance, minimum risk to the patient and satisfactory results. On the contrary it is probably responsible for more unfavorable criticism and poor results than any other method because of its employment by surgeons of poor judgment and faulty technique.

Too many patients have had gastro-enterostomies for peritoneal irritations outside of the stomach and duodenum; for gall bladder infections, kidney stones, tabes, psycho-neurosis and what not. It is to be regretted that this procedure should be blamed for disappointing results when in a considerable proportion of cases the operator fails by sight and touch to demonstrate the presence of ulcer.

Contributing to these disappointments are poor judgment on the part of the surgeon in the selection of the site on the stomach wall for the opening; opening made too small to provide for adequate drainage after cicatricial contraction takes place; the proximal end of the jejunum too short resulting in too much

tension and suture strain; the distal loop too long favoring the development of kinks and vicious circle; abuse of clamps and failure to properly control hemorrhage resulting in hematoma favorable to secondary ulceration.

On account of the many disappointments following gastro-enterostomy, and principally because of the high per cent of secondary ulcers which have been reported from various clinics, some very high as for example the report of Lewisoohn who found thirty-four per cent of secondary gastro-jejunal ulcers, many surgeons, especially in Europe are following the lead of Haberer and doing partial gastrectomies for both gastric and duodenal ulcers.

Gastrectomy combined with gastro-jejunosomy or gastro-duodenostomy, in my opinion, should not be adopted as a routine procedure by the general surgeon because it is a more serious and more difficult operation with greater risk to the patient. Haberer, who is one of the leading advocates for radical surgery for peptic ulcer, had an immediate mortality of 8.4 per cent in one hundred sixty-six cases. One hundred seven of his cases were traced and results were classified as excellent in eighty-three; fair in sixteen and poor in six of whom two developed gastro-jejunal ulcers. Dr. Hurst reports that there are in the literature one hundred cases of secondary ulcers after gastrectomies. Finsterer says that the ordinary method of partial gastric resection does not produce acidity, and advises that three-fourths of the viscus should be removed.

The Finney method of pyloroplasty is an excellent procedure for benign stricture from any cause at or near the pylorus. From an anatomical and physiological standpoint this method seems more sound than any other method of recognized merit. The chief contra-indications are: the presence of malignancy, and the inability of the surgeon to mobilize the duodenum satisfactorily. This method abolishes the pyloric ring and thus eliminates the possibility of pyloric stenosis. Finney contends that the duodenum compensates for the loss of the pylorus by rhythmic contractions

and thus interferes with too rapid emptying of the stomach. Finney says,⁸ "We have seen duodenal ulceration follow pyloroplasty in only two cases. One appeared after five years, another after one and one-half years."

The Haberer-Finney modification of the Billroth I is an excellent procedure where it is desirable to do a pyloroplasty and to remove the ulcer situated near the pylorus on either side. By this method the continuity is restored by uniting part or the entire opening of the stomach with the side of the duodenum after closing the end of the duodenum which can be accomplished by a purse string suture. It is very important to freely mobilize the stomach and the duodenum to avoid too much tension and the consequent strain on the suture line.

It is my opinion that the general surgeon should not substitute the more radical operations for posterior gastro-jejunosomy except for malignancy or where it is strongly suspected. In favor of this method we have the reports submitted by Balfour who found in 8,600 cases of gastro-jejunosomy only 1.6 per cent of secondary ulcer, and reports from Moynihan's clinic covering a period of twelve years show secondary ulcer following gastro-enterostomy in only 1.84 per cent of cases. Quoting Moynihan, "Those who die after gastrectomy are equal in number to those who in my practice die after gastro-enterostomy plus all those who ultimately prove unfavorable cases. Then again are the survivors after gastrectomy any better than the survivors after gastro-enterostomy?"

For inspiration to greater interest, for a more comprehensive study of this subject, and for material contained in this paper, I am, through the literature and personal association with, indebted to Drs. William J. and Charles Mayo, Balfour, Mann and Williamson of the Mayo Clinic; Martin Rehffuss of Philadelphia; Finney of Johns Hopkins; Lord Moynihan of Leeds; and Bohan and Haden of Kansas City.

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Stasis of the Cecum and Ascending Colon

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Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

For many years I have been interested in the large number of cases who return with the same symptoms from which they suffered previous to an appendectomy, therefore the reason for presenting this paper, although the subject has been well and ably discussed many times.

So many times the patients present themselves with a more or less constant low grade pain in the right inguinal region, and on account of its persistence the patient is quite willing to submit to surgery which is often performed without preliminary examination, except palpation, etc., to see where the tender spots are located.

The symptoms of an obstruction in the region of the cecum, ascending colon, and the beginning of the transverse colon, are very often similar, no matter what the cause of the obstruction. My plea is for a more thorough diagnosis or a more thorough operation.

Many years ago Lane and Jackson wrote rather extensively, describing the bands occurring around the terminal ileum and the ascending colon. Jackson's description of this condition, as he saw it, is as follows: "From a point just at the hepatic flexure, to three inches above the caput, there spreads from the parietal margin over the external lateral margin to the internal longitudinal muscle band, a thin, vascular veil, in which long, straight, unbranching blood vessels course, most of which are parallel with each other and take a slight spiral direction over the colon from the outer upper peritoneal attachment to the inner lower portion of the gut, ending just above the caput. The appendix is not implicated in any way. Coursing with the blood vessels are numerous shining narrow bands of connective tissue, which gradually broaden as they go, and end

in a slight fan-shaped attachment at various points on the anterior and inner surface of the colon. At these points of



Fig. 1

Normal cecum and ascending colon in which there are no angulations. Note the same continuity throughout. A moderate dilatation of the cecum is commensurate with good health.

attachment the gut is held in rigid plication. These bands vary in density and strength and when they are divided the intestinal plications disappear and the bowel unfolds, assuming its natural appearance." Lane describes a condition found in the last 15 cm. (6 inches) of the ileum. An angulation occurring in this part of the ileum and the central por-

tion of the angulation presenting a downward concavity, and its two limbs tending to be united with each other by adhesions, or with the colon, or the ileum

“Lane’s kink” and “Jackson’s membrane” were given a great deal of notice for a time, but the subject seemed to drop into the background, the operation



Fig. 2

Large membrane which covers the entire ascending colon. These membranes are frequently very dense, especially in cases of long duration. The cecum is usually not covered and the symptoms are caused by the obstruction to the normal peristalsis and is usually associated with a sclerotic appendix, which is often removed without relief of symptoms.

may be adherent to and enveloped by its own mesentery which, as it were, imprisons it. Lane considered this condition was brought about by traction of a prolapsed cecum, on the one hand, in conjunction, on the other, with a counter-pull of an ileal mesentery fixed at a point about 7.5 cm. (3 inches) from its cecal attachment. The tendency of this pathologic arrangement is to partially obstruct the lumen of the ileum, and to produce a chronic type of moderate obstruction.



Fig. 3

Band obstructing the ascending colon and the descending loop of the transverse colon. Adhesions between the descending loop and the ascending colon are a very common cause of obstruction.

was not thoroughly performed, and the patients began to return after a very careful appendectomy.

ETIOLOGY

Nothing has been definitely proven relative to etiology, but I think there is

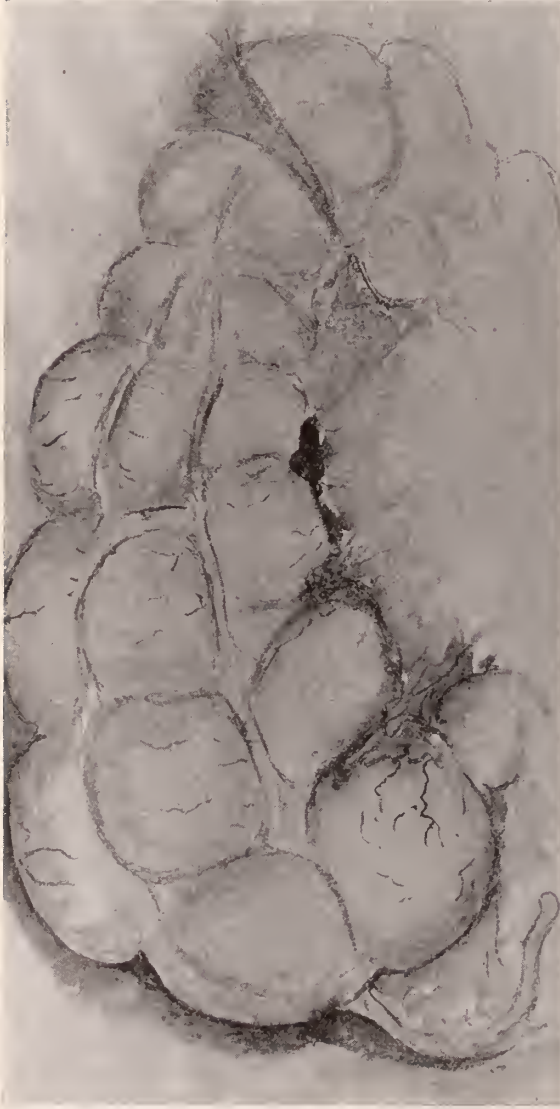


Fig. 4

Shows a type of obstruction often overlooked and causes an enormous dilatation of the cecum and ascending colon which present the bands on the front and are which I have described as a "Double Barreled Cecum." This is very easily relieved by loosening the band and plicating the cecum and ascending colon by bringing the bands together with a continuous silk suture which reduces the redundant cecum to a normal size. Very easily diagnosed by the fluoroscope.

a good reason to believe that a congenital defect must be present in most of the cases. A continual stasis from the small

band gives rise to a low grade inflammatory action that causes the band to increase its density and the persistent stasis causes the bowel at that point to become larger, thicker, and finally lose a certain amount of its muscular activity and causes a gradual thickening and dilatation of the cecum.

PATHOLOGY

Many of these cecums are found to be greatly distended at the dependent part and to contain a double band, or really a "double barreled cecum," sometimes the cecum and ascending colon are of good anatomical structure, but are dilated at the dependent portion, with one or more bands across the outer portion and attached to the inner side of the colon causing a stasis in the part below. These bands are usually transparent membranes which can be freely moved over the peritoneal coat of the bowel and have small blood vessels running longitudinally with the fibers composing the bands. Many times there is an adhesion between the descending loop of the transverse colon and the cecum holding the two together and causing a kink at the hepatic flexure of the colon.

SYMPTOMATOLOGY

There is usually a history of prolonged low grade pain in the right iliac fossa and extending up to the right costal margin. One of the frequent complaints is a reflex stomach condition, nausea, pain in the epigastrium, acid eructations, and pain or pressure over the epigastrium. Pressure over the right iliac region often causes a reflex pain over the right costal margin, and frequently the pain is reflected to the epigastric region. The symptoms are relieved with a thorough colonic washing or with a mild laxative only to recur again as soon as the patient is free from the laxative or the cecum has had time to refill. These patients are frequently constipated and often have periodic attacks of hyperperistalsis and a very fetid, fermented bowel movement, sometimes three or four at intervals alternating with the constipation.

DIAGNOSIS

The x-ray will tell the whole story. Given a barium meal the stomach checks free. The food will all be in the cecum

in 6 to 10 hours and there it stays for 48 hours and up to many days. I have observed cases where barium was retained in the cecum for fourteen days.

Fluoroscopic palpation may show the appendix which fills normally, but if retro-cecal, which is frequent in these cases, the appendix will not be visualized. The cecum and ascending colon can not be emptied on palpation and the area of obstruction is very easily visualized. If the kink is holding the descending loop of the transverse colon the loops can not be separated on palpation. In the patients who have previously had appen-

very thorough search to be made at the time of operation, and the condition found and relieved.

Treatment is essentially surgical. The bands must be very carefully loosened and ligatured allowing the loop of the bowel to fall back into the normal position. It is best to place the patient in bed on the left side to prevent the bowel from adhering in its old position. Stasis in the colon must be relieved by frequent colonic irrigations with the view of preventing the colon from becoming pushed back into the sub-hepatic space and becoming adherent. In many of the patients the colon is adherent to the gall bladder. This condition can usually be demonstrated by previous cholecystograms. In the large double barreled type of cecum the gut must be invaginated by suture to its normal size, preferably by a continuous small silk suture.

When the stasis is sufficient to prevent the cecum from emptying for a period of several days it is usually best to do an ileo-colostomy to the transverse colon, or the cecum and ascending colon should be resected and an anastomosis performed. I have in several instances, where the patient was suffering from stasis of the entire transverse colon and from arthritis, done an ileo-sigmoidostomy, obtaining very gratifying results as to the relief of constipation and the arthritis symptoms.

We are cautioned that the patient will suffer from gas after the ileo-sigmoidostomy unless the colon is resected. I have not found that this is the case if you cut the cecum at the ileo cecal valve and close its cecal opening. The colon may be resected, but as a rule these patients are not in extra good physical condition, and therefore one wishes to do as safe an operation as possible. Years ago Ochsner advocated cutting the descending colon just above the sigmoid and turning the end out of the abdomen.

CASE HISTORIES

Miss A. W., age 31, single, school teacher. Previous history unimportant except an operation for removal of chronic appendix five years previous. The symptoms had continued as before the appendectomy. She was extremely



Fig. 5

Appearance of a 72 hour barium in a very extensive case of pericolic membrane and adhesions between the loop of the ascending colon and the descending loop of the transverse colon. The appendix was only sclerotic and the only relief was resection of the cecum and ascending colon with an end to end enterocolostomy into the beginning of the transverse colon. Patient was extremely nauseated and emaciated. At the present time is completely well and on duty as a nurse and is one of the happiest ones that we have.

dectomies the symptoms remain and the roentenological examination gives the same picture, except there is no appendix to visualize.

My plea is for the diagnosis to be made with the x-ray before the operation for the removal of the appendix, or a

emaciated, confined to bed, nausea was continuous, vomiting at intervals. There was considerable pain on pressure over the right inguinal region and the right costal region. A barium meal emptied from the stomach in normal time; all barium was in the cecum in 7 hours where it remained for 72 hours when it was removed by colonic washing. The cecum was very large. On operation a double band with extreme dilatation of the cecum was found and a band causing a kink at the hepatic flexure. The entire cecum and ascending colon were covered with a veil like membrane. The membrane was removed and the cecum reduced to its normal size by plication and the obstructing band at the hepatic flexure removed. The patient gained thirty pounds in sixty days. There has been no nausea since operation. She has since married and given birth to two fine babies. The gain in weight is now much over the 30 pounds previous gain.



Fig. 6

Mrs. M. W: Another case of 72 hour barium showing extensive adhesions about the ascending colon. These were very satisfactorily removed and resection was not required. To date the patient has complete relief.

Vera L., age 21, student nurse. Previous history unimportant except for attacks of "sick headache." These attacks

came on at about ten years of age, she had one about once a month and more often after indiscretions in eating. During an attack she was unable to retain water, vomited large quantities of bile, and was weak and dizzy. For two months before we examined her she had been unable to work except for two or three days at a time. Any food, except milk, caused intense pain in the epigastrium that was relieved only by gastric lavage. The stomach was easy for ten minutes after taking milk then the burning started. Soda bicarb., etc., had no effect on the burning. Laxatives caused so much pain in the stomach she did not take them, but had been taking from two to three enemas daily. A barium meal was given and the stomach filled and emptied in a normal manner. Seven hours after all the food was in the cecum. The cecum was very large and irregular in outline. We watched her for eight days with the flouroscope, and although she had to take enemas for the relief of pain, barium remained in the cecum. She was down to 75 pounds in weight and had been unable to take nourishment for such a long time that I felt she was not a good surgical risk. It seemed to be the only way out, however, and she was so uncomfortable she was glad to have the surgery. I found a megalo-cecum with a retro-cecal appendix, the ascending colon was greatly dilated, due to the obstructing membranes at the hepatic flexure. The cecum and ascending colon were resected and an end to end anastomosis between the terminal ileum and the transverse colon made. Five days later she developed some ileal stasis and a low enterostomy was done. She left the hospital at the end of two weeks. The enterostomy wound closed in good shape and she has been gaining weight since weighing more now (six months after the surgery) than she has ever weighed. She eats all kinds of food, has from one to two normal bowel movements a day, and is working as a student nurse every day.

Mr. C. E., age 35, greatly emaciated, unable to retain water, severe pain over the right iliac fossa and radiating up to the right costal region. The abdomen

was greatly distended. He gave a history of being operated upon five years previously for removal of the appendix. The same symptoms had continued and later he was operated upon for "post-operative adhesions." This operation failed to relieve the symptoms and he was again operated upon for "adhesions." The trouble became so much worse that he was brought to the Johnson Hospital with complete obstruction due to a heavy pericolic membrane which enveloped the entire cecum and ascending colon. At operation it was found that nothing less than an ileo-colostomy or removal of the cecum and ascending colon with an ileo-colostomy would suffice to cure the patient. The cecum was extremely thickened and entirely buried in a dense peri-colic membrane, and fearing future trouble, the ileum was cut at the ileo-cecal valve and a complete resection of the cecum and ascending colon and the descending loop of the transverse colon was done. The ends of the ileum and the colon were closed and a side to side anastomosis made. The patient made an uneventful recovery and is now enjoying most excellent health.

CONCLUSIONS

These are only a few illustrations of many histories and operations of the same class. I wish to make a plea for a more extensive diagnosis previous to an operation and more complete operation in these cases. A patient operated on and not relieved of the existing symptoms, not only places surgery in disrepute, but it is rather hard on the patient.

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Life Conservation

J. W. GRAYBILL, M.D., Newton

Read before the Harvey County Medical Society, July 7, 1930.

In taking up the discussion of Life Conservation two phases of the subject are to be considered. One is the sociological and the other is the economic. The sociological phase covers life, comfort and happiness. As indicating the importance of this phase, it may be pointed out that the Declaration of Independence specifies guarantees for "Life, liberty and the pursuit of happiness." Without

health and ruggedness comfort and happiness are out of the question, and, touching on the economic phase, this is equally true as to a successful life in business, the professions or politics, as in most cases complete success is impossible unless the individual has rugged health.

Welfare workers, limited largely to women's clubs and organizations, are concerned more with the sociological than the economic phase of life conservation. They have been stirred to activity by statistics compiled by the United States Government and the great efforts they have been and are putting forth are doubtless having an important effect in reducing the tremendous waste in human lives.

One of the greatest inspirations for the women of our country to interest themselves in life conservation was the startling statement by the Government that each year in the United States 180,000 babies are still-born or die within the first year of life and that 16,000 expectant mothers yield up their lives during gestation and childbirth. As a result of this, and many other similar statistical records compiled by the United States Bureau of Health, the League of Women Voters interested itself in what is known as the Sheppard-Towner Act to reduce infant mortality and protect the expectant mother. This measure I will describe later. The report, which I have referred to, also showed that New Zealand is the safest place in the world for babies, since less babies are still-born or die within the first year of life than in any other country in the world. The little country of Denmark is the safest country in the world for a woman to have a baby, as the mortality rate among mothers during childbirth is the lowest. To attain in the United States the standards established in New Zealand and Denmark is the goal for which the welfare workers have been and are now striving, without compensation and, it must be said, with comparatively little encouragement from state legislatures in the way of appropriations to carry on this important work.

THE ECONOMIC PHASE

While the sociological side appeals most strongly to the sex which has to do with the bearing and nourishment of the infant and in relieving the suffering and in saving the life of the baby, the average citizen can be appealed to in the matter of life conservation only from the economic standpoint and his personal interest in it on a dollars and cents basis demonstrated to him.

Dr. Morton, my colleague in the Senate during the 1927 session of the Kansas Legislature, who was chairman of the Public Health Committee, in an animated talk before the committee advocating the enactment of the bill authorizing counties to employ full time county health officers, made the statement that "it costs \$10.00 in Kansas to register a bull calf and it costs but twenty-five cents to register a male child." Dr. Morton, while addressing what he believed to be an assembly of the most enlightened men in Kansas, was pointing out that the average citizen has greater regard for the health and welfare of cattle and hogs than of children. Since the fees are available for use in extending the work in the department for which they are collected, the point he was trying to make in his argument was that at least as much should be done for the care and treatment of sick human beings as there is for cattle and hogs.

I recall that while I was health officer in Harvey County a number of years ago there was raging among the children up in Norton County an epidemic of cerebrospinal meningitis. The disease had been spreading rapidly through the schools and the condition was very alarming. I had occasion to be in Norton County at the time. The state and the United States governments were doing nothing toward checking the spread of the disease or the treatment of these helpless children. The entire work was being carried on by the local physicians who, of course, were much handicapped by the lack of co-operation and assistance from the state and national governments. No funds were available for that purpose.

At the same time there was an epidemic of hog cholera in our neighboring county of Butler. I also had occasion to go there and I found a large force of government and state agents at work assisting the farmers in combating the epidemic, treating the infected hogs and vaccinating the herds not yet affected by the disease. Appropriations had been made for that purpose.

In this connection, also, I wish to quote from Will Rogers' article in the newspapers May 1:

"WILL ROGERS ON MAY DAY"

"I am mighty glad so many people in America are taking up the children's work. Used to think there might be some chance of getting our government interested in it, but that is hoping too much. Being a ranchman and farmer and also a child owner, I have often wished that when one of my children got sick I could wire some government expert and have him come and look after them, like I do when one of my cows or pigs get some disease.

"If your fertilizer is not agreeing with your land, the government will send a specialist, but if the food is not agreeing with the baby, why we have to find out what's the matter ourselves, and lots of times parents mean well but they don't know much.

"So I am glad that you people are interested in children. Course they are lots of trouble but we just don't seem to be smart enough to find something that would be less trouble that would replace them.

"That's the only thing we are shy of now 'is synthetic children.

"It's not a bad idea whoever thought of doing something for the children.

"It it works and you improve them, I will send you mine."

The Kansas legislature, during its 1927 session, enacted a law giving the county commissioners of the various counties the right to name full time health officers. The law is not compulsory and up to this time only eleven counties have full time health officers with attending nurses. In these counties that have taken advantage of the law authorizing the employment of full time health officers and public nurses periodical examinations are being made not only of school children, but also of children who have not attained school age. However, only 29.6 per cent of the people of Kansas are under the supervision of well organized county or city health departments.

As I have stated, that which appeals most to the average citizen in the matter of life conservation is the economic phase. If people generally could be

brought to understand that the value of a human life from an economic standpoint is several hundred times the market value of a fat hog they would all be for and assist in the work of life conservation. It is variously estimated that a human life is worth from \$10,000 to \$30,000 to the state and society. It is oftentimes a difficult matter to make one understand how an estimate of this kind can be made. The following is a case in point:

A man with whom I was acquainted moved to Chicago. He was successful and in 1928 paid income tax on an income of a half million dollars. While in Chicago a year ago I had occasion to desire to see him. I found him in a hospital. He was under 50 years of age but was suffering from failing compensation, and he has since died. He was a man who was educated in a western university and was very active in social and political life. It is not a difficult matter to make a fairly accurate estimate of this man's value to the state by merely taking into consideration the taxes paid by him, without taking into consideration the enormous sums that he paid in welfare work, donations to hospitals, churches, the poor, etc. The most deplorable feature of this case was that the cause of the man's final illness could have been removed in childhood, since the condition was caused primarily by infected tonsils.

This is one only of many similar cases that I could cite, and there is not a doctor present but knows of many cases of like nature.

The death rate in Kansas in 1924 was 9.7 per 1,000 of population. There were 17,863 deaths that year and the state's population was 1,833,882. Since then the death rate has gradually increased. In 1928 (the report for 1929 is not yet out) the Kansas population was 1,838,421. There were 20,917 deaths, or a ratio of 11.3 per 1,000 population.

The increase in population from 1924 to 1928 was 4,539. The increase in deaths for the same period was 3,054, the increase in death ratio being 1.6 per 1,000 of population. If the death losses in 1928 had been as low as in 1924 there

would have been 2,941 fewer deaths and an economic saving of \$58,820,000 in the value of lives.

The population of Kansas today is approximately 2,000,000. If the death rate can be cut one per thousand of population, it would mean a reduction of 2,000 in deaths and an economic saving in the value of lives of \$40,000,000.

If these facts could be properly and forcibly presented to the general public, and the necessary steps taken both by the public and the legislators, a great economic saving could be effected.

A. O. U. W. TUBERCULAR DATA

The experience of the A. O. U. W. of Kansas in the treatment of members afflicted with tuberculosis gives an excellent example of what well directed effort will accomplish in life conservation.

From 1919 to 1928, inclusive, the society had 204 deaths among members from tuberculosis. The average policy in force is \$1,500. This means that the death losses from tuberculosis during the ten year period mentioned aggregated \$306,000. If these members who died from tuberculosis had been given treatment in a sanatorium, experience of sanatoria shows, 75 per cent of the lives would have been saved, effecting a saving in death losses to the society of \$229,500 and an economic saving of \$3,000,000 to the state.

The cost of establishment of the A. O. U. W. Tuberculosis Sanatorium was approximately \$60,000. The average cost of treatment, transportation, etc., of each patient taking the full cure or arrestment is \$225.00. If all those who died from tuberculosis in the A. O. U. W. in the ten years from 1919 to 1928 had been treated in the sanatorium, and 75 per cent been saved, as is probable, the cost of saving these lives to the society, outside of the first cost of the building, would have been \$15,300, as compared with a saving in death losses of \$229,500.

THE REMEDY

The Sheppard-Towner Act should be re-enacted. It was first passed in 1921 and appropriated certain sums of money for the "promotion of the welfare of hygiene of maternity and infancy." For the year 1921 an appropriation was made

of the public funds of the United States of \$480,000 to be equally apportioned among the several states, and provision made for the appropriation annually for five years thereafter of the sum of \$240,000 to be apportioned equally among the several states. This act was reenacted in 1926 but appropriations were made only for the period up to and including the year 1929. Under the provision of the act the states to receive assistance were required to appropriate a like sum, or \$5,000 annually.

As a result of this act, a Board of Maternity and Infancy was created, which consisted of the Chief of the Children's Bureau, the Surgeon General of the United States Public Health Service, and the United States Commissioner of Education. An untold amount of good has resulted and an effort is being made to secure the re-enactment of the Sheppard-Towner Bill so that the good work that has been started may be carried on.

PERIODICAL EXAMINATION OF ADULTS

It is said that 50 per cent of all adult persons die of degenerative diseases and that 30 per cent of these die prematurely or before their life's expectancy is attained, but these facts usually are regarded with indifference by the public. Of the degenerative diseases, heart disease leads the entire list with a fatality twice as great as the mortality from the next, which is kidney disease. Cancer is a close third among the causes of death, with cerebral hemorrhage fourth.

At this point I wish to quote from the report of the Medical Director of the A. O. U. W. of Kansas in 1929.

"The 'silent sicknesses,' chronic diseases of the heart, kidneys, blood vessels, lungs and liver, creep in like a thief in the night and may be present for years and the victim be unaware of the fact, going steadily on with his work, with little or nothing to indicate that a fatal disease is slowly working toward a breakdown of some vital organ. These 'silent sicknesses' are responsible for more deaths than any other kind of disease and their discovery and treatment in their early stages means the addition of a score of years to many lives that otherwise would be lost. With this ob-

ject in view, in the interest of the society as a whole and individually, arrangements have been made with the Life Extension Institute for periodical health examinations of the membership of the order. This provides you with a most thorough and critical physical examination by a competent physician of the institute and for the purpose of discovering any unfavorable factor which may be causing a present lowered condition of your health or threatening your expectancy of life. By these examinations, these 'silent sicknesses' are recognized at their beginning and proper treatment advised. The discovery of a diseased tonsil, of a little abscess at the root of a tooth, and other minor points of infection will save many a death from Bright's disease, apoplexy, heart disease, etc. Cancer and tuberculosis are curable in their earlier stages.

LEGISLATION NECESSARY

What is needed in continuing and extending the work of life conservation primarily is legislative appropriations. The first step is the re-enactment of the Sheppard-Towner Act, which expired by limitation last year. The League of Women Voters is conducting a campaign with this end in view and should have the support and assistance of every member of the medical profession.

The next step should be to enact a law making it compulsory for counties to employ a full time health officer with from one to three registered nurses as assistants, depending upon the population to be served. In the sparsely settled sections of the state, two or three counties could be combined into one health district.

Every county in the state has a county attorney on a full time basis to look after criminals. This is compulsory, and needless to say occasions considerable expense. But it is optional, the way the law now reads, whether a full time health officer shall be employed to look after the health of the citizens of a county.

By the enactment of a compulsory law for full time health officers and public nurses, provision can be made for the periodical physical examination of children. Diseases discovered can be pointed

out and required medical or surgical treatment by their regular physicians advised. Haven Emerson has well said that "the prevention of heart disease calls for cleaner mouths, fewer tonsils, fewer neglected decayed teeth, earlier recognition of sore throats, skilled attention to the little child with aching muscles and joints, and repeated examinations of the after attacks of any acute disease in childhood."

Heart disease continues to take its dreadful toll of human life each year, and still holds the record of claiming the greatest number of victims. Authorities are practically in accord in the statement that a vast majority of these cases of heart disease could be prevented by thorough examination and treatment (medical and surgical) in childhood.

Fishbein, in a statement, says that there are 2,000,000 people in the United States suffering from heart disease and that the care of the sufferers costs the country at least \$100,000,000 a year. He urges periodical examinations of children to detect heart disease in its early stages and the cause sought as soon as possible. In order that the examinations of children can be made it is necessary, of course, that the public—the parents—shall be educated in regard to the matter and encouraged to have periodical examinations made of their children.

I wish to take advantage of this opportunity to commend the physicians of Newton on the advanced step they have taken in giving the children of the city free periodical examinations. This is a wonderful work and many suffering children will be immediately benefitted, but the most startling results will be the comforts and benefits that will accrue to these children when they grow to maturity, and no doubt also will tend to longevity.

You are doing all you can personally in life conservation and welfare work. What we must now do is to unite in a campaign for the purpose of securing legislative aid and adequate appropriations for carrying on the work systematically and organized so as to reach all sections of the state. It is an imposition on good nature to ask physicians to do

this work free of charge. It should be paid from public funds and a law compelling the counties and districts to have full time health officers will eliminate the work of physicians giving their time free of charge. Physicians are actuated to do this work by their long experience with suffering humanity.

Rat Bite Fever

FRANK FONCANNON, M.D., Emporia, Kan.

Soduku or Rat Bite Fever while not a rare disease is at least uncommon and especially so in Kansas. It was first reported in American literature by Whitman Wilcox in 1839. Since then many cases have been collected until now, according to Leasingham, there have appeared in the worlds literature one hundred and eighty-nine cases. These cases were distributed as follows: Australasia, 3; Austria, 1; Brazil, 1; British E. Africa, 1; Canada, 1; Ceylon, 2; China, 2; Dutch E. India, 2; England, 12; Finland, 1; France, 29; German E. Africa, 2; Germany, 2; Hawaii, 1; Holland, 4; India, 14; Italy, 44; Japan, 18; Lithuania, 1; Mexico, 5; Orient, 1; Philippines, 1; Portugese E. Africa, 1; Russia, 4; Scotland, 1; Spain, 3; Switzerland, 1; Syria, 1; Tripoli, 1; Turkey, 1; United States, 28.

ETIOLOGY

The etiology of rat bite fever was long overlooked as it was in the case of syphilis. The relation of the initial lesion to the eruption, fever and chills and other symptoms escaped recognition. The causal agent was discovered by Dr. Hata of Japan. He was once an assistant of Ehrlich in his arsenical researches. The resemblance of rat bite dermatitis to that of syphilis and relapsing fever caused him to believe it due to a spirochete which he ultimately proved to be correct.

The incubation period is usually from twelve to thirty days although it may be of less duration or as long as eight weeks. In the severe cases the incubation period is shorter and more prolonged in mild cases. In most cases the wound heals promptly followed by a period of incubation which is as a rule free of symptoms. Usually the first symptom is swelling and induration at the primary

wound which in many cases has completely healed. The area about the wound becomes red as do also the lymphatics, much as in the case of streptococcal infection. The lymph nodes draining this area become swollen and tender but there is rarely suppuration. The patient has the symptoms of a general infection for two or three days which is then followed by paroxysms that begin with chills and high temperature. Sweats are common during the course of, and especially at the end of, the fever. The temperature often drops suddenly. These paroxysms usually recur in untreated cases every four to six days and usually last two to four days. There is an exanthem noticed usually a day or two before the paroxysm. This sometimes consists of a few large spots or may be distributed over the whole body and usually consists of maculo-papular areas that somewhat resemble erythema multiformis. The duration of the disease varies from a few days to several months and one man reports a case lasting eight years. There is ten per cent mortality, death occurring usually during the first paroxysm. Pneumonia and renal involvement are frequent causes of death.

The causative organism *Spirochaeta Morsus-Muris* may be inoculated by the bite of a rat, mole, dog, cat or ferret and Smallwood reports one case in England due to the bite of a pig. Not all rats harbor the disease. It is said that the organism does not exist in the saliva but that there must be a wound in the mouth through which the organism escapes. Practically all the cases reported were due to the bite of wild rats while one of the interesting points in the case about to be reported is that it was due to the bite of a tame white rat that had never been in contact with wild rats.

TREATMENT

The best prophylactic measure is cauterization of the wound as soon as possible with pure phenol followed by wet dressings of mercuric chloride 1:3000. Arsphenamine, neoarsphenamine, or sulpharsphenamine are specific and many cases are reported to have cleared up after one or two injections while the more severe cases eventually

yield to repeated doses. It would appear logical that all persons bitten by rats should be given one of these arsenicals as a prophylactic measure because not all of the cases clear up with one injection and some become serious.

Other treatment is largely symptomatic. For the aching and muscular pains the salicylates are useful. Fever may be controlled by sponging and such drugs as phenacetin, etc.

HISTORY

Paul L., student, age 22, while handling a white rat during an experiment, April 12, 1930, was bitten on the middle finger of the right hand. The wound bled freely and was treated immediately with iodine. Within a few days it was completely healed. April twenty-seventh he was admitted to the Newman Memorial Hospital with a chill followed by a temperature of 103°, headache and perspiring freely. The finger was swollen and the lymphatics visible as red streaks up the forearm. There was some swelling and tenderness in the axillary glands. The condition was diagnosed as streptococcal infection and the hand and forearm was soaked in hot water. The temperature dropped to normal in a few hours. The patient was dismissed April twenty-ninth.

On May eighth the patient was again admitted to the hospital after again having had a chill and temperature of 102.6°. The middle finger was inflamed as before and the inflamed lymphatics could easily be seen running up the arm. The hand was also considerably swollen and an x-ray was taken to ascertain whether or not there was any bone infection. The x-ray was negative. The patient at this time had loss of appetite and severe muscular pain especially in the feet.

On May ninth small red macules appeared on the extensor and flexor surfaces of the hands and feet. At this time it was thought that the symptoms so closely paralleled that of rat bite fever that it would be reasonable to give one of the arsenicals. Neosalvarsan .4 grams was given intravenously. The temperature was at that time 101° to 102°. An intermittent temperature continued. A

blood culture at this time was reported by the Mid-West Laboratory as positive for *Spirochaeta Morsus-Muris*.

On May eleventh .6 grams neosalvarsan was given and again on May thirteenth. The patient was dismissed on May thirteenth with normal temperature and good appetite. The patient reported for neosalvarsan treatment again on May twenty-fifth, twenty-eighth and June second. The exanthem still appeared on the hands and feet during this time. The patient complained of much pain in the feet.

On the evening of June second the patient was again admitted to the hospital with temperature of 100°, exanthema, pain in the feet and legs. The rash still persisted. June seventh he was again given intravenously .6 grams neosalvarsan. The patient's temperature ranged from 99° to 100°. On June ninth his temperature dropped to normal but the exanthema persisted. Pains in the ankles and arms still continued. He was put on metallic bismuth (Burroughs Welcome) 1 c. c. intramuscularly once a week. The rash became less but there was still traces of it after a month of treatment. Protiodide of mercury orally was added to the treatment and August first three and one-half months after he was bitten all symptoms had disappeared.

—R—

TUBERCULOSIS ABSTRACTS

Robert Koch in 1884 raised hopes that tuberculin would prove to be a specific cure for tuberculosis. His failure did not discourage but rather spurred on numerous other brilliant workers. A half-century of futile search has considerably dampened the hope that a single genius will solve the riddle. There is, however, promise of a solution in the joint effort of many minds. Such an effort is being made by the Committee on Medical Research of the National Tuberculosis Association, which, since 1921, has been working systematically on anatomical, pathological epidemiological studies, and particularly on an analytic study of the tubercle bacillus itself. When the composition, nature, and physiology of the bacillus, as well as the body cells involved in the disease, are fully under-

stood, it is not only possible but probable that a simple means will be found to cure and prevent tuberculosis. Kendall Emerson has given a resume of the work and findings of this committee in the Journal of the American Medical Association, March 15, 1930, from which the following synopsis is derived.

RESEARCH IN TUBERCULOSIS

Research in the chemistry and biology of the living tubercle bacillus required far more in equipment and personnel than could be found in any single laboratory. There were, however, numerous individuals equipped to carry on highly specialized and technical research. The Committee on Medical Research, organized in 1921, succeeded in interesting a considerable number of specialists in attacking the study under a co-operative plan. Twenty-one different laboratories are now so correlated, and workers of these laboratories meet in frequent conferences under the leadership of the chairman of the committee.

MATERIALS STANDARDIZED

In order to make the results in different localities comparable, it was essential first to standardize all products. Esmond R. Long of the University of Chicago produced a synthetic medium composed of chemically pure ingredients of exactly known quantities and qualities for the growth of the bacteria. As no laboratory was equipped to grow the bacteria in quantities sufficient for the desired analyses, two manufacturers, the H. K. Mulford Company and Parke, Davis and Company, generously undertook to grow and supply such raw materials. Both the bacteria and the synthetic media in which they are grown are subjected to research, the latter to determine the chemical changes occurring as the result of the metabolism of the bacteria. Up to the present time, five varieties of bacilli have been produced and subjected to analysis—human tubercle bacillus H-37, the bovine, the avian, non-specific timothy grass, and lepra bacilli. After filtration, the bacteria are shipped to Sterling Chemical Laboratory at Yale University and the filtrate to the Department of Pathology of the University of Chicago.

BACILLUS IS FRACTIONED

Under the direction of Treat B. Johnson of Sterling Laboratory, the bacterial residue is broken up into isolated fractions, or pure substances, some of which were hitherto unknown to chemistry. Similarly, at the University of Chicago, the filtrate or medium, is subjected to chemical disintegration. These several fractions are then sent to the Rockefeller Institute, where, under the direction of Florence R. Sabin, they are tested out individually on animals for their physiological effects. At the same time, a clinical study is made of the fractions by David R. Lyman of Gaylord Farm Sanatorium.

Thus far, there has been isolated from the bacteria and from the medium on which they were grown a pure protein substance which produces the skin reaction typical of tuberculin. It has also been shown that a certain fat fraction stimulates the growth of the monocyte (the cell in which the tubercle bacillus grows and is conveyed) far beyond the rate of growth of other cells. It has further been demonstrated that the sugar fractions or polysaccharides of the

and avian types of tubercle bacillus. The task of testing and classifying the biologic effects of all the types of bacillus is still in its early stages.

CHEMISTRY OF BODY CELLS

The changes in living cells brought about by the action of the tubercle bacillus are being studied by R. S. Cunningham at Vanderbilt University. The fact that tuberculosis is finally a problem of the living chemistry of the tubercle bacillus in symbiotic existence with the living chemistry of body cells has led to this attempt to study the influences of various substances on the several types of cells composing the body. Supplementing Dr. Cunningham's work, Eugene F. DuBois and Paul Reznikoff of Cornell University are making a comparative record of the respiration rate of the living tubercle bacilli and of body cells, both before and after infection with tubercle bacillus. (Comment: If, for example a means could be found for disturbing or disrupting the synchronism of the respiration rate of the tubercle bacillus, and the monocyte, which is the host of the bacillus, the bacillus would probably perish before it had been conveyed to the soil on which its growth is possible.)

Ross G. Harrison and George A. Baitzell of Yale University are carrying on a study of scar tissue production, which is so important a factor in tubercle production. "It would now appear," they report, "that the finer chemistry of the development of the fibrils in the ground substances and fluids of the body has many points in common with the fibrillation of gelatin and blood clotting."

LATENT TUBERCULOSIS

A study of latent tuberculosis was started by Eugene L. Opie at Washington University in 1923. Shortly after, Dr. Opie removed to Phipps Institute, where research in childhood type of tuberculosis is being continued as a contribution to the group project. Another study is being made at Johns Hopkins Hospital by E. A. Park on tuberculosis in infancy.

L. Van Es at the University of Nebraska Agricultural College is studying the distribution of avian tuberculous in-

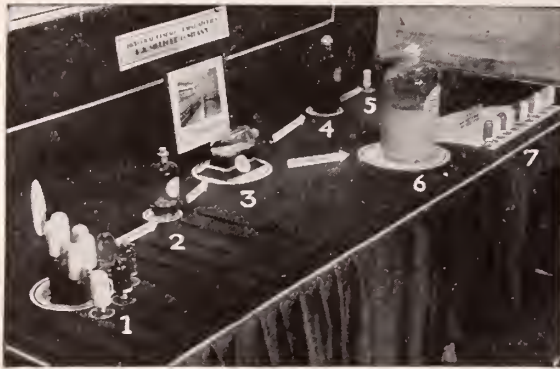


Exhibit illustrating fractioning of tubercle bacillus

1. Ingredients of Long's media
2. Long's media
3. Tubercle bacillus culture on Long's media
4. Bacterial filtrate
5. Protein 304-F precipitated from filtrate
6. Bacteria precipitate (tubercle bacilli)
7. Pure chemical products derived from bacteria

—Courtesy H. K. Mulford Co.

tubercle bacillus are chiefly responsible for the fever and rapid pulse and that they possess a killing power for tuberculous animals. It appears also that it is the polysaccharides which determine the distinctions between the human, bovine,

fection in mammals other than swine.

Ernest L. Walker of the University of California investigated the therapeutic value of chaulmoogra oil, which study

clinical experience has failed to establish the value of desiccated preparations administered orally. There is considerable evidence that the aqueous extracts prepared for hypodermic use are inert.

. . . much work has been done toward the elaboration of a potent, standardized preparation of the ovary, and as a result of these investigations such potent standardized preparations for use by subcutaneous injection have become available. These preparations have been shown to induce estrus in mature animals and to induce sexual maturity in immature animals. Somewhat limited clinical evidence indicates their probable value in ovarian hypofunction." The Council has omitted all desiccated ovary preparations for oral administration on the ground that there is no adequate evidence for their value and, so far, has not accepted any ovarian hormone preparation, because the evidence for the value of these was considered inadequate. (J.A.M.A., July 5, '30.)

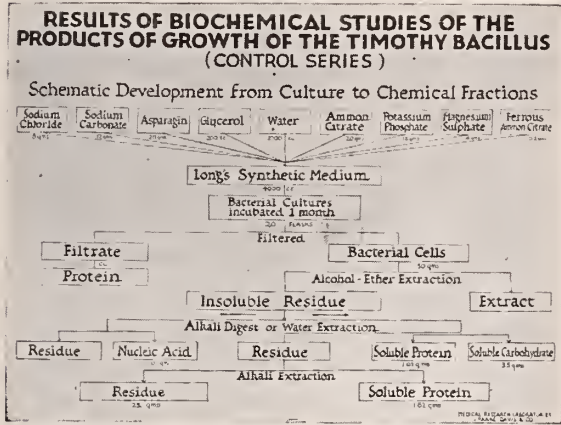


Chart illustrating fractioning of timothy bacillus (control series) —Courtesy Parke, Davis & Co.

was discontinued when it was proved that this remedy, so potent in leprosy, has no effect on tuberculosis.

In his conclusions, the author states: "The work, although now pursued for a number of years, may still be considered to be in its infancy. Whither it leads, it would be idle to speculate. I believe it is no breach of confidence to say that in a recent statement to me Dr. Sabin remarked that she did not know when she had been so deeply thrilled as by the possibilities of this extensive study and the results toward which it might be leading." *Research in Tuberculosis, Kendall Emerson, M.D., Jour. of the A.M.A., Mar. 15, 1930, Vol. 94.*

Therapy With Ovarian Preparations

The Council on Pharmacy and Chemistry sponsors the following statement on therapy with ovarian preparations in the current (1930) edition of *New and Nonofficial Remedies*: "Rational as ovarian therapy may theoretically appear to be in some conditions, the actual results are rarely striking, and often nil to the careful observer. It is altogether probable that the activity which may be presented by the fresh gland is not contained in a finished desiccated product, or else, when given by mouth, it is destroyed by the digestive juices; extensive

The Adaptability of Dextri-Maltose to the Successful Feeding of Infants.

For almost thirty years physicians have associated Dextri-Maltose with cow's milk and water formulae as being "the second thought" after breast milk, "the first thought."

Fresh cow's milk, however, is not the only artificial milk with which Dextri-Maltose may be successfully used. It is equally valuable for the modification of evaporated milk, dry and powdered milks, lactic acid milk and protein milk.

When the supply of fresh cow's milk is unsafe or scarce, and the physician finds it necessary to substitute evaporated milk, he will find "Dextri-Maltose with Vitamin B" particularly valuable because it compensates for the loss of vitamin B-1 during the process of evaporating milk.*

*United States Department of Agriculture, circular number 84, page 4.

RELAXATIVES

Clerk: "This rain will help the farmers."
Mrs. O'Brien: "Sure, an hour of this will do more good in five minutes than a month of it would do in a week at any other time."

THE JOURNAL

of the

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W. E. McVEY, M. D. - - - Editor

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SOME FAULTS IN MEDICAL LAWS

A review of the medical practice acts of the various states reveals a great dissimilarity in detail but a common basic principle. There are many students of the subject of proper medical legislation and from all of their writings one gets much the same impressions as to the particular purposes of such laws—to maintain and improve the standards of qualifications for the practice of the healing art and to prevent those who are unable to qualify from practicing. While these are commendable purposes there is some doubt if a state can make laws for such purposes although they may be incidentally carried out by the standards of qualifications prescribed.

There are few if any medical practice acts that are entirely satisfactory. There are few if any of them that are so constructed as to protect the people against incompetent practitioners and at the same time satisfy the demands of various groups of practitioners of the healing art, and it is doubtful if such a law can be constructed.

At least for the sake of discussion it might be well to consider that the funda-

mental principle upon which the police power of the state is invoked is the welfare of the people, and laws regulating the practice of the healing art must be founded upon that principle and whatever consideration is given to the various groups of practitioners must be secondary to it.

The healing art is not a religion in which there may be various beliefs and forms of worship, and the state has so recognized in the establishment of its health board and its health regulations as well as in the establishment of its school of medicine. In these departments it has created a precedent by which it may proceed to establish a minimum standard of qualifications for all who are permitted to practice the healing art. Additional qualifications may be specified for those who practice medicine and surgery and perhaps for other groups who practice only forms of physiotherapy, but it must be a law of "a general nature" so that it cannot be modified or practically nullified by special laws as has been the case with our present medical practice act and with those of numerous other states. Section 17 of the Constitution is as follows: "All laws of a general nature shall have a uniform operation throughout the state; and in all cases where a general law can be made applicable no special law shall be enacted; and whether or not a law enacted is repugnant to this provision of the constitution shall be construed and determined by the courts of the State."

So far as the records available show the courts have never been asked to determine if the medical practice act was a law of a general nature. It was certainly so intended when it was passed, but the readiness with which special laws have since been passed by the legislature would suggest that it has not been so regarded.

Laws which have been made, or may be made, to regulate the practice of the healing art, which do not come within the provision of that section of the Constitution may be nullified by special legislation such as that which created the board of osteopathic examiners and that which created the board of chiropractic examiners.

One may suggest that much of the dissatisfaction with the present popular form of medical practice acts and much of the inefficiency of such legislation results from the provisions for their administration. When a state, by authority of its police power, makes laws for the purpose of regulating certain occupations it is presumed that the fundamental purpose of such legislation is to protect and promote the welfare of the people. If such is the case then it is inconsistent with good legislation that such laws should be administered by those who are so regulated. Perhaps it is because this sort of regulatory legislation is usually prepared and sponsored by organizations or groups of those in the occupations concerned, that the legislators come to regard such legislation as concessions to them. Since it is also usually provided in such laws, that their administration shall be delegated to a board or boards composed of persons engaged in the occupation to be regulated the idea of a concession seems justified, and the fundamental purpose of these laws is submerged. The indifference of legislative and judicial bodies to the enforcement of these laws seems unexplainable on any other hypothesis. In a majority of the states, the laws regulating the practice of the healing art provide for the appointment of boards made up of persons engaged in such practice. Whether the laws are administered by a composite board or by multiple boards seems to be of no particular importance

so long as these laws are regarded as concessions, for in the one case, representatives of newly founded "schools of practice" will continue to be added to the board until it becomes unwieldy and incompetent for the purpose for which it was created; and in the other case, the demand for new and additional boards and their creation will ultimately nullify the legal standards of qualifications previously adopted.

EVIDENCES OF POLITICAL ECONOMY?

There seems to be sufficient reason to believe that the next legislature may look favorably upon a proposal to improve the laws governing the practice of the healing art in this state.

Before the last session of the legislature convened we had assurance that a majority of its members would support our basic science bill. It seemed at that time, and it may seem now, that in such a bill lies the only chance we have to raise the educational standard for those who are licensed to practice the healing art. At any rate it is still the only way except by repealing a lot of the legal junk that clutters up our statutes. Two years ago that would have been impossible, but now the state administration will be in the hands of young and progressive statesmen to whom efficiency and economy in the State's affairs should make a strong appeal.

There are ten boards, with a total membership of forty-one, appointed by the Governor to administer laws regulating certain occupations that are more or less intimately related to public health. The duties ascribed to these various boards could be performed quite as efficiently by one board or by a few clerks under the direction of one officer, with a saving of some fifty-thousand dollars or more. Perhaps one should say an increase in the State's income of that

amount, for very little of the fees collected by these boards is turned over to the State. At any rate the saving or the increase in receipts would amount to approximately the sum annually appropriated for the maintenance of the Board of Health.

Under Chapter 65 of the Revised Statutes will be found laws prescribing the duties of the following examining boards: Board of Medical Registration and Examination, Board for Examination of Trained Nurses, Board of Osteopathic Examination and Registration, Board of Chiropractic Examiners, Board of Dental Examiners, Board of Examination in Optometry, State Board of Pharmacy, State Board of Embalming and the State Barber Board. In addition to these is the more recent Cosmetology Board. These boards all collect fees, most of them for examination and some of them also for annual registration.

The osteopathic board, dentist board and optometry board each collect an examination fee of \$25.00 and the optometry board also collects an annual registration fee of \$5.00. The board of medical examiners and the chiropractic board each collect an examination fee of \$15.00. The nurses board, pharmacy board and embalmers board each collect an examination fee of \$10.00 and the pharmacy board and embalmers board each collect an annual fee of \$2.00. The barbers board charges an examination fee of \$5.00 and presumably collects an annual fee of \$1.00 although the law is vague on that point. The cosmetology board collects an examination fee of \$5.00 and an annual registration fee of \$5.00 for mannequists and an examination fee of \$10.00 and an annual fee of \$7.00 for cosmetologists.

The receipts of all of these, except the pharmacy board, for the year ending June 30, 1929 amounted to \$52,851.85 and

the expenses for the same period were \$51,610.24. Some of these boards are inadequately compensated while the annual expenses of others seem very much in excess of the value of the duties they perform. The personnel of these various boards, including the Pharmacy Board, numbers 41. The compensation varies from \$3.00 to \$10.00 per diem, with expenses. Although the law requires that the pharmacy board shall make an annual report of its proceedings "together with an account of all moneys received and disbursed by them in pursuance of this act," no statement of the board's receipts and expenditures appears in the auditor's report and information came from his office that no such reports were made. For this reason the items of receipts and expenditures of this board cannot at this time be included in our figures.

If we exclude the five members of the pharmacy board there are 36 board members who expended \$51,610.24 or \$1,433.62 per each. Now if there is added to the receipts the fees collected by the hotel commission, which should be under the department of health, amounting to \$26,144.10 we would have a total receipt in fees in our health department of \$78,995.95 and a total expense of \$75,085.76.

The expense of the hotel commission for the year is reported as \$23,415.52 and is largely for salaries and traveling expenses of a number of inspectors. The next expensive board is that of the cosmetologist examiners which for the same period spent \$21,887.55 or \$7,295.85 per member. Since they are allowed \$10.00 per diem and expenses it would seem that they were each on duty 365 days of the year with traveling expenses of \$3,645.85 each.

Next comes the barber board of three members with expenses of \$15,453.48 or \$5,151.16 per member. Since the mem-

bers of this board are allowed by law but \$5.00 per diem and expenses they also must have put in full time with traveling expenses of \$3,326.16 each.

These figures, which are derived from the revised statutes and from the last two editions of "Kansas Facts," would indicate that the cosmetologist board and the barber board consist essentially of traveling inspectors.

There are then four groups of inspectors engaged in work in which the Board of Health is more or less directly concerned for that board also has four inspectors in the field. It is doubtful if such technical qualifications are required of any of these groups that they would be unable to take over the duties of the others, especially when their territories overlap. One inspector could cover the work required by all four of these boards in all but a few cities in the state without adding but very little to the time each of them now spends.

After reviewing the laws creating several of these boards and considering their receipts and expenses one can hardly avoid the conclusion that their purpose is to afford profitable employment for a few men at the expense of all those engaged in these particular occupations.

There are a few observations that are unavoidable by one who has taken the trouble to read these laws and compile the figures here presented.

Since these boards are created by the State and appointed by the governor, all fees collected by them, under specific provisions of the laws, belong to the State and should be expended only as specifically authorized by the State.

For an economical and efficient administration of the State's affairs the ten boards enumerated above should be abolished and the duties now prescribed for them, which properly belong to the

health department of the State, should be delegated to the Board of Health or to various departments under a commissioner of health.

Chapter 65 and article 9 to 18 inclusive, of Chapter 74, of the revised statutes should be rewritten. There are among the provisions of those laws, too many that are meaningless, obsolete, impossible, inexplicit, or ambiguous, and to one who is ignorant of legal discrimination many of them are unconstitutional, at any rate would seem absurd to an ordinary business man.

BASIC PRINCIPLES

The following principles are submitted for the consideration of those who have in mind some proposal for durable and efficient legislation regulating the practice of the healing art.

The only purpose for which such laws should be or can be made is for the protection and promotion of the welfare of the people and this purpose must in no manner be compromised by privileges or concessions granted to those who are to be regulated.

Any law which is created for the purpose stated must be so formulated as to be definitely of a general nature within the meaning of the constitution.

In order that there shall be no question as to the purpose of the laws or as to their general nature no person who is in any way engaged in the practice of the healing art in any form should be identified with the administration of the laws, except in an advisory capacity or as they may be employed for some specific purpose under the direction of those whose duty it shall be to administer such laws.

In such laws definitions should be sufficiently comprehensive to defy misinterpretation if that is possible. For instance, the following definition of the

practice of medicine was given by the Supreme Court in the case of Underwood v. Scott, 43 Kan| 714: "The 'practice of medicine' as that term is more generally understood means the exercise or performance of any act by or through the use of anything or matter, or by things given or applied whether with or without the use of drugs or medicines by a person holding himself or herself out as able to cure diseases or the causes of diseases with a view to heal, relieve, cure, or having for its object the prevention, healing, curing or alleviation of disease."

Terms which cannot be comprehensively defined should not be used in the construction of such laws.

A minimum universal standard of qualification for all those who are permitted to practice the healing art should be provided and the extent of such qualifications should be explicitly set out not by the use of such terms as anatomy, physiology, etc., but by descriptions of the subject matter embraced under those titles.

Additional specific requirements may be made for all who desire to practice the healing art without limitation or restriction, and other additional requirements for those who desire to practice the healing art without the use of drugs and without surgical procedures. If the universal standard of requirement is sufficiently complete and comprehensive, there will be no need for specific additions except to maintain reciprocity relations with other states.

Finally there must be some definite provision for the enforcement of the law and some one definitely delegated to see that it is enforced.

These are suggested as essential stones in the foundation upon which a satisfactory, efficient and durable medical practice act can be constructed.

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You are the beneficiaries of our advertisers' patronage of the Journal and in fairness to them you should give their products your careful consideration.

In this number the Riggs Optical Company describes an instrument for determining visual acuity. This should interest all those who are interested in the correction of visual defects.

In this number Parke, Davis & Company give you a hint of the advertising campaign they have been conducting in several of the most popular magazines, in which by illustrations and texts they are endeavoring to impress the people with the importance of consulting a physician. Perhaps you have noticed these display advertisements that have appeared in the Saturday Evening Post, Literary Digest, Times, Collier's and Hygeia.

S. H. Camp & Company is using a half page now and in this number offers to send you a set of anatomical studies on request. Send in your request and keep in mind that Camp can supply you with all kinds of physiological supports.

Mead Johnson and Company present the virtues of dextri-maltose in balancing diets of various kinds and also describe the various combinations of dextri-maltose they now make.

Eli Lilly and Company use a page to show you the advantages of their toxin-antitoxin in immunizing children against diphtheria. You can't miss seeing their colored plate two page insert which also appears in this number.

Mellin's Food Company tells you how to prepare this food for babies with summer diarrhea.

Tulane University offers post-graduate instruction in all branches of medicine. See their advertisement in this number.

Dr. Nelse F. Ockerblad has contracted for a professional card to appear regularly in the Journal.

In the last number of the Journal The Mosby Company had a full page advertisement of Sutton's recent book "The Long Trek." In this issue the advertisement of his work on skin diseases occupies that page.

Of course you noticed Merck & Company's colored plate two page insert in the August number advertising pyridium. In this number they use a half page for pyridium and a half page to call your attention to kelene for general and local anesthesia.

You will find a lot of nistructive reading about the use of gelatine especially Knox gelatine in the advertising pages. It is really important to know how to use it and if you fail to get the expected results it will probably be because you do not read these instructions.

When the next patient complaining of excessive perspiration under the arms comes in call to mind that advertisement of Nonspi you saw in the Journal.

In this number of the Journal the Lederle Laboratories call attention particularly to their tetanus anti-toxin which is supplied in syringes, ready for immediate use.

The Maltbie Chemical Company continues for another month its offer to send you 100 calcreose tablets and a tube of ephedrine nasal jelly-Maltbie on request. Better take advantage of this offer while it holds. You won't often have an opportunity to get so much for so little.

If you have a patient you wish to send to a sanitarium you will find advertisements of the best there are in this part of the country, in the pages of the Journal.

Don't forget the Fall Clinical Conference at Kansas City next month. Look over the names of the speakers in the half page advertisement in this number of the Journal.

The Gerry Optical Company is another old patron and you will recall his active campaign to establish the ethical distinction between an optician and the M. D. who does refraction work. He is offering to send you pamphlets explaining the services of the Eye Physician for distribution among your patients.

If you want laboratory work that is dependable we suggest that you send your material to one of the laboratories advertised in the Journal. We don't know anything about other laboratories but we do know about these.

F. A. Davis Company advertises Dr. Balyeat's book on Allergic Diseases. All of us need information along this line. Better look this up in the page advertisement in this number.

If you want to know how mercurochrome acts, read the advertisement of Hynson, Westcott and Dunning.

Dr. Katherine Storm is one of your oldest patrons. She has been telling you about her supports for so long that when the word "supporter" is mentioned you think of "Storm."

The Physicians Supply Company of Kansas City is one of our old regular patrons. Don't forget this when you want something in the line of instruments or supplies. This month they are showing the sani-can and detecto scale.

The name "Squibb" has always stood for dependable pharmaceuticals and in

this number E. R. Squibb and Sons advertise their diphtheria products—antitoxin, toxin, toxin-antitoxin and toxoid.

— R —
CHIPS

The churches have now undertaken a serious consideration of "birth control" and some of the older ministers have apparently been convinced of its merits as a subject for discussion. But they are really too late, for all that now remains of the problem is whether or not the chicks and flappers shall be permitted to impart a knowledge of the principles of birth control to their parents and grandparents who are no longer particularly interested in the subject.

In the *Lancet*, May 17, Harris reports the treatment of fourteen cases of general paralysis of the insane by the Schroeder method, the injection of sulphur in olive oil. The results in these cases seem to justify his conclusions that injections of sulphur in olive oil produce a high degree of fever, even in patients who have had malarial treatment previously or who have failed to react to malarial inoculation. The injections are simple and safe to give.

The following comment on the Brinkley hearing appeared recently in "The Pink Rag" (Topeka):

"Nothing has been done about Doc Osborne of Milford, though it looks as though Doc Brinkley of the same place, would get his.

"Lucky for the duo that they were not caught with a half pint of booze. In that case there would be a hurried trip to Lansing."

From an article on "Chronic Streptococcal Illnesses" by C. Bruce Perry, published in the *London Lancet*, May 10, the following is quoted: "When one reviews the wide range of chronic illnesses which are at the moment attributed to streptococci one is struck by the fact that there is no specificity in the type of streptococcus producing the lesion. The haemolytic streptococci are rare as the causal organism of a chronic illness, so rare in fact that their occurrence may be doubted. The types which are found

in these chronic illnesses are of the non-haemolytic or viridans group. . . The conclusion which emerges from the large mass of work done on the subject points to the fact that this group of streptococci are non-specific. Any of them may produce any of the lesions. The production of pathogenic effects depends apparently on the host, the previous environment and infections, and on the mode of entry of the infecting organisms."

Some thirty-five years ago there was a short period when surgeons were hopeful that castration or vasectomy might be substituted for prostatectomy. The mortality from prostatectomy was in the neighborhood of 16 per cent, not so high considering the cases coming to operation were those in which catheter treatment had failed. But mental disturbances occurred in a considerable per cent of the cases on which castration or vasectomy was done and much to the surprise of those who advocated castration the mortality was higher than in prostatectomies. A fair per cent of favorable results were reported probably due to diminution of congestion but it was doubtful if there was any permanent shrinkage of the prostate. Whatever beneficial results were noted did not justify general adoption of the operation. It was thought that in a few carefully selected cases it could be recommended but in these the results were sometimes much delayed.

Theobald has a very interesting article in the *Lancet*, May 24, on the causes of eclampsia. He makes a definite assertion that "eclampsia is neither caused by a placental toxin, nor by any functional or organic lesions in the kidneys." On the other hand he concludes from facts known and from the results of his own experiments that it is caused by toxins absorbed from the intestinal canal, which, owing to a breakdown in the defenses of the body, are not detoxicated. He says: "The defensive forces of the body are compromised by pregnancy in several ways. The liver has to undertake duties both for the mother and the foetus. Anxieties associated with preg-

naency and the bulk of the uterus may prevent the proper digestion and assimilation of food. The foetus requires considerable quantities of sugar and calcium and other important substances during the last four weeks of pregnancy. Intestinal stasis, aggravated by the bulk of the uterus and by the fixing of the foetal head in the pelvis, causes an increased absorption of toxins."

At the recent meeting of the American Association for the Study of Goiter at Seattle, Washington, Doctor William F. Rienhoff, Jr., of Johns Hopkins University, Baltimore, Maryland, received the annual award of \$300 for the best essay dealing with the goiter problem. Doctors O. P. Kimball, of Cleveland, Ohio, and E. P. and D. R. McCullagh, Cleveland Clinic Foundation, Cleveland, Ohio, and Robert P. Ball, of the University of Louisville, received honorable mention.

————— R —————

DEATHS

Benjamin A. McLemore, Fort Scott, aged 70, died May 27 of interstitial nephritis and cerebral hemorrhage. He graduated from Meharry Medical College, Nashville, in 1887. He was a member of the Society.

Emil H. Lehmann, Alma, aged 62, was found dead of a self inflicted bullet wound on May 12. He graduated from Barnes Medical College, St. Louis, in 1901.

John Simpson Black, Virgil, aged 84, died of cerebral hemorrhage on April 20. He was licensed in Kansas in 1901.

William E. Mowery, of Scott City, aged 73, died June 24 in Asbury Hospital, Salina, of injuries received in an automobile accident. He graduated from Eclectic Medical College, Cincinnati, in 1887.

Rawlings Clarence Fear, Gardner, aged 63, died June 9, of heart disease. He graduated from Marion Sims College of Medicine, St. Louis, in 1897.

SOCIETIES

FRANKLIN COUNTY MEDICAL SOCIETY

This was the annual mid-summer frolic of the society. The session was held at the Ottawa Country Club. There were some enjoyable golf games in the afternoon. Dinner was served by the club caterer at 7 p. m. Baked fried chicken and stewed green corn was the motif of the feast, and all the trimmings thrown in.

Our family of members and guests seem to be growing. There were seventy participants in the breaking of bread.

After a brief business session a very interesting program of technical and lay character was enjoyed by all present.

Dr. Harry Gilke, of Kansas City, gave an illustrated lecture on problems of infant feeding, featuring social, economic and physical anomalies that enter into or prevent nutrition, development and growth of children. Particularly interesting was a group of pictures gathered from the clinics of Kansas City showing physical reasons for infant mortality.

This was followed by an illustrated lecture by Dr. Hugh Dwyer of Kansas City, taking up the relations of these conditions to diseases of the intestinal tract in infants and children. In the matter of treatment of diarrheas, this writer noted with satisfaction that the speakers views were quite closely alligned with those of the general practitioners of the last decade of the past century. He believes in cleansing the tract thoroughly, once, and after that look to and correct the character of the ingesta. Water, tea, boiled milk, puffed wheat, lime water, antipyretics (to satisfy the family), paregoric, etc.

It was some surprise to most of us, however, to hear his interdiction of promiscuous enemata, and the use of acetyl salicylic acid per oram. But we believe his extensive use of glucose met the approval of many of his listeners.

The next feature of the program was a moving picture show presented by the Petrolager Co. showing the effect of drugs on the motility of the stomach and their influence on the peristaltic wave.

Among the guests present were repre-

sentatives of Anderson, Allen, Douglas and Miami counties.

GEORGE W. DAVIS, Secretary.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

The 43rd annual meeting of the Missouri Valley Medical Society will be held in Des Moines, Iowa, Wednesday, Thursday and Friday, October 15th, 16th and 17th. Headquarters will be at the Fort Des Moines Hotel.

To quote from the Preamble to the Constitution, as adopted during the societies reorganization in 1927, "The objectives of this association shall be primarily educational. The society shall give opportunity to the faculties of the universities of the district, to members of the association, and to invited guests, to present such work as will tend to place the practice of medicine in the district on a higher scientific plane."

That this has not been written in vain, we know. Those who have had the good fortune to attend the meetings during the past few years attest to this. The programs have been varied so that they have had universal appeal whether the physician be a general practitioner, a man devoting all his time to teaching in a medical school, or one specializing in a limited field. This policy will be continued.

It has, and is still felt, that such a society has a most important role to play in the workaday lives of the physicians of Missouri Valley. It brings to our door, so to speak, the opportunity for keeping pace with what is going on under the direction of some of our country's most able research workers and practicing physicians; it affords the means of meeting these men. The opportunity to renew old friendships and the making of new amongst the rank and file of the physicians of the Missouri Valley is assured. All this and more is available without expending the money and valuable time necessary to attend such meetings at greater distances.

The program for this year's meeting has been completed. It includes; Drs. Joseph C. Bloodgood of John Hopkins University, Baltimore; J. H. Musser of Tulane University of Louisiana, New

Orleans; Russell M. Wilder of Chicago University; Laurence H. Mayers and Loyal Davis of Northwestern University, Chicago; Willard Bartlett of Washington University, St. Louis; E. Starr Judd of Mayo Clinic, Rochester; Horace M. Korns, F. R. Peterson and Julian D. Boyd of the University of Iowa Medical School; Abbott M. Dean and Aldis A. Johnson of Council Bluffs; J. B. Potts and F. Lowell Dunn of Nebraska University Medical School; John R. Kleyla and James F. Kelly of Creighton University Medical School; C. B. Francisco, Earl C. Padgett and P. T. Bohan of Kansas University Medical School and Walter L. Bierring and N. Boyd Anderson of Des Moines.

It is felt that with such a program to offer, the officers of the society may be justified in their belief that this year's meeting will see a record attendance.

A complete program will be mailed about October 1, 1930.

— R —

Central Association of Obstetrics and Gynecology

The Central Association of Obstetricians and Gynecologists meets Thursday, October 9th, in Kansas City, in conjunction with the Kansas City-Southwest Clinical Society. Members of the Association will co-operate in conducting clinics in the morning, while in the afternoon they will provide a symposium on Normal Labor. Dr. Fred L. Adair, Chicago—Management of Pregnancy; Dr. Percy W. Toombs, Memphis—Management of the First and Second Stages of Labor; Dr. L. A. Calkins, Kansas City—Management of the Third Stage; Dr. Jennings C. Litzenberg, Minneapolis—Occiput Posterior; Dr. Fred J. Taussig, St. Louis—Breech Presentation; Dr. Rudolph W. Holmes, Chicago—Prolonged Labor; and Dr. G. D. Royston, St. Louis—Post-natal Care.

On Friday and Saturday mornings, October 10th and 11th, the Association will conduct scientific sessions at the Hotel Elms, Excelsior Springs, Missouri. Members of the profession are cordially invited to attend. Registration can be made at the hotel—there will be no fee.

Formal papers and case reports will feature the programs.

Excelsior Springs is only thirty miles from Kansas City with good interurban and bus service, and with excellent roads for those who motor.

Physicians wishing programs of the Excelsior Springs meetings may address Dr. E. D. Plass, Secretary, University Hospital, Iowa City, Iowa.

— R —

BOOKS

The Medical Clinics of North America. (Issued serially, one number every month.) Volume 14, Number 1. (University of California Number, July, 1930.) Octavo of 278 pages with 54 illustrations. Per clinic year, July, 1930 to May, 1931. Paper \$12.00; Cloth, \$16.00 Net. Philadelphia and London: W. B. Saunders Company, 1930

This is the University of California number of the Clinics and is made up of reports of the clinical lectures and conferences given by Dr. Barker during a four weeks course given there. A wide range of subjects will be noted in the contents. Some very interesting and instructive cases are discussed.

Feeding in Infancy and Childhood by I. Newton Kugelmass, M.D. Published by J. B. Lippincott Company, Philadelphia.

The author says: "Half the practice of pediatrics is concerned with specific nutritional therapy. As the metabolic mechanisms of the body are becoming clearer, natural nutrients related to body tissues are gradually displacing foreign drugs in pediatric therapy." In his further discussion he seems to suggest that nutritional therapy has come to be a fairly exact science. In that case it is time for the practitioner to give more thought and more study to his subject.

Burnes, Types, Pathology, Management by George T Pack, M.D., former professor of Pathology, University of Alabama and A. Hobson Davis, M.D., Instructor in Pathology, University of Alabama Published by J. B. Lippincott Company, Philadelphia.

The authors have had sufficient opportunity to observe the serious character of lesions occasioned by burns. Much of their own experience is manifest in the suggested treatments outlined. The book contains a history, classification, description of the various conditions caused by burns and an extensive

discussion of the treatment to be carried out.

Gonococcal Infections in The Male by Abr. C. Wolbarst, M.D., Urologist and Director of Urologic Clinics, Beth Israel Hospital. etc. Second edition, revised. Published by C. V. Mosby Company, St. Louis, Price \$5.50.

A few changes and some additions have been made. The author stresses the idea that gonorrhoea must be considered a constitutional disease and must be treated accordingly. He described the constitutional therapy used in his own practice. Diagnosis and therapy are emphasized throughout. The illustrations are well selected and aid materially in clarifying the text.

Doctors and Specialists, a medical Revue with a prologue and a good many scenes, by Morris Fishbein, M.D., Editor of the Journal of the American Medical Association. Published by The Bobbs-Merrill Company, Indianapolis.

These stories, or descriptions, may be described as slight exaggerations of the truth presented in a humorous vein at which one seems compelled to laugh—a sort of regretful laugh. Or one might say that they are painfully amusing caricatures of modern fashions in medicine in which are described the sometimes ridiculous habiliments in which a truly progressive science is clothed.

Tropical Medicine in the United States by Alfred C. Reed, M.D., Professor of Tropical Medicine, University of California. Published by J. B. Lippincott Company, Philadelphia.

The author defines the term Tropical Medicine as the practice of medicine in hot climates. Many diseases differ radically in incidence, spread, control, prognosis and treatment in hot climates and health preservation in hot climates requires procedures totally different from those in cold climates. The tropical diseases are classified as protozoal, spirochetal, bacillary, helminthic, diseases of unknown etiology, mycotic, metabolic, arthropod parasites, miscellaneous.

— R —

Mental Disorders and the Public Health

In a recent address, Surgeon General H. S. Cumming of the United States Public Health Service pointed out that the public health administrator of the present day is called upon from time to

time to make new adjustments and new adaptations to meet the ever changing conditions of modern life. He called attention to the fact that new diseases are being recognized and discovered which demand studies and investigations for their control and suppression; that old diseases lose their significance through changing virulence, a community immunity, modifications in living conditions, or the development of more accurate methods for their prevention, while still other diseases, long recognized, in time become of greater relative importance and significance to the public health official.

The business of public health is constantly changing. The dramatic and spectacular experiences in the suppression of disease, borne by insects, water, food, or other physical agents, occur less and less each year. This is probably due, in part, to the fact that mankind has become more tolerant and cognizant of the necessity for absolute control of his physical environment. But public sentiment has not been sufficiently aroused to demand the control and suppression of those diseases that are dependent for their prevention on the restriction of individual rights. In the field of public health, the restriction and control of persons, such as disease carriers, afford an altogether different problem from the restriction of things and the control of physical environment. New adjustments must be made from time to time by health agencies to meet the spirit of the times, but these must be tempered by the customs and traditions of public health practices and procedure.

The necessity for directing efforts toward the prevention of mental disorders, toward the conservation of mental health, and toward the amelioration of adverse mental states is apparent by the ever-increasing numbers of persons with mental disorders seeking aid in public institutions. During the 50-year period from 1880 to 1930, the rate of persons under care in State hospitals for the insane alone had increased from 81 to more than 220 per each 100,000 of the general population. The rate had almost trebled, but the actual number of cases under

care had increased to almost six times the number under care in 1880. The rapid expansion in public facilities for the care of the group comprising one form of mental illness—namely, the group for whom the public demands segregation—has entailed an enormous outlay of public funds for buildings and equipment, and required yearly increases in expenditures for the care of inmates. This economic loss is of vital interest to legislators and practical administrators who are equally desirous of reaching an adequate solution of the problem. An intangible, but none the less important, aspect of such a situation is the economic loss to the community through invaliding so many people in the prime of life, and the suffering of individuals whose families are not infrequently rendered impoverished by such diseases.

The problem of the so-called insanities is only one of the several problems, for other mental disorders also claim attention. These include the mentally defective or feeble minded as they are more often termed. Their prevalence is not exactly known, but studies conducted by the Public Health Service, as well as by others, indicate that they may be found in the proportion of about 5 to each 1,000 of the general population. With this figure as a basis, it is estimated that there are at least 500,000 feeble-minded persons in the United States today.

For a long time mental diseases were considered apart from general medicine and little effort was made to understand their nature or causes. In recent years, however, there has been an awakening of interest which has developed the specialty of psychiatry more or less independently of other branches of medical practice. A traditional aversion toward those of unsound mind, shared by the medical profession, probably operated in no small degree to produce this effect. Among other factors which played a part in this independent development was the segregation of mentally disordered persons in public institutions that were more or less isolated and remote from other centers of medical work, and also from a conscious or unconscious isolation on the

part of workers engaged in this special field of medical endeavor.

In approaching the problem of mental health, the public health administrator should contemplate the co-ordination of health activities with those institutional and communal forces that are called upon to minister to the needs of the mentally ill. A broad program of mental hygiene should consider where and under what conditions mental disease occurs and aid in developing appropriate means for the early recognition and treatment of mentally ill persons by providing adequate and suitable facilities for such purposes and by training personnel to undertake the work. It should also contemplate investigations and studies with respect to the underlying reasons or causes of mental ill health and interpret and diffuse such knowledge to the public and medical profession. A balanced program should also consider a just apportionment of the cost of supervision and care of the mentally ill persons by a humane and efficient method of interchange between communities having responsible jurisdictions, thus partly serving in the solution of the economic problems involved. A well-balanced program must take cognizance of the activities of agencies tending to conserve an individual's social integrity and afford such assistance and co-operation as may be possible, either directly or indirectly, that may influence the solution of these problems.

R

Rickets and Vitamin D

Without detracting in the least from the merited value of viosterol in the treatment of rickets, certain recent investigations raise a question as to the simplicity of the pathogenesis of rickets implied in the current use of viosterol. It has been pointed out recently that, whereas both viosterol and cod liver oil are extremely efficacious in curing rickets, only the latter contains in addition the indispensable vitamin A. Although the most obvious function of calcium and phosphorus is in the building of bones, there are other demands for these mineral elements which, at times, become of great importance and it has been shown

that, whereas vitamin D is concerned with the calcification of bones, the retention of calcium and phosphorus in the body is largely a function of the level of these materials in the diet. A comparison of the efficacy of cod liver oil and of viosterol as prophylactic antirachitic agents showed that of 123 children given viosterol 29 per cent were not protected against rickets, while of 100 given cod liver oil 3 per cent showed rickets, although the former group received twice the number of units of vitamin D given the latter group. (J.A.M.A., July 5, '30.)

R

Testicular Grafting

At the International Physiological Congress in Boston last summer, Voronoff boldly reported in relation to his widely proclaimed testicular grafting that the successive phenomenal results of the transplantation are now definitely established. Recently, Moore has discussed the astounding claims that are prevalent in this field and remarks that the absence of dependable indexes for the alleged "hypogonadism" in man, or the inability to utilize proved indicators for hormone introduction by any means, appears to have caused but little concern to clinicians employing these supposedly remedial measures. Astonishing as it may be, published statements of the effect of hormone introduction, or alleged hormone increases from the intact organs, claim improvements for conditions that fairly well exhaust the ills to which man has fallen heir. Moore concludes that there is no known acceptable evidence that non-viable testes grafts, that is, grafts that fail to become incorporated within the body and actively secrete, exert any immediate or remote beneficial effect on the host organism. (J.A.M.A., July 19, '30.)

R

"You Are Always Thinking of the Doctor's Viewpoint"

This was an expression frequently voiced at the Mead Johnson exhibit at the recent A.M.A. session. The unique showing of ancient feeding spoons and nursing bottles was the special attractions this year.

At a previous exhibit, the feature was a motion picture of the cod liver oil industry as related to the doctor's interest in vitamins A and D.

A few years ago, when the breast pump was new, Mead Johnson & Company demonstrated one of these useful devices. "What?" exclaimed many doctors, "You make infant diet materials, and yet you demonstrate something that promotes breast feeding and destroys your own business?"

Then we explained that from the beginning, we recognized the superiority of breast feeding, that it was we who coined the slogan "First Thought Mother's Milk, Second Thought Dextrin-Maltose, Cow's Milk and Water."

Invariably the reply was, "You have the right idea. You're always thinking of the doctor's viewpoint. You are working for the doctor. That is why we're for Mead Johnson."

—R—

Washington Portraits and Letters

Two interesting tasks confront the George Washington Bicentennial Commission, now planning the nation-wide observance of the Two Hundredth Anniversary in 1932, of George Washington's birth. One is to determine which portrait of George Washington, of the many in existence, bears the closest resemblance to the general, the other is to discover some heretofore unpublished original letters of Washington, many of which are known to be in existence. The first question is expected to be settled when the portrait committee of the bicentennial commission holds its next meeting this fall. The search for the unpublished letters of Washington will prove to be a more difficult task.

The painting of Washington which will be selected by the portrait committee will have the most extensive poster circulation ever accorded a picture. Thousands of copies will be printed and distributed. It will reach every corner of the United States and probably every corner of the world. Many of the publications to be issued by the George Washington Bicentennial Commission will include one of these portraits; every school house will be presented with a

copy; calendars, posters and window displays will have this picture as a feature. The necessity for a decision on the "best picture" is obvious.

Washington sat for as many as 21 artists. From these originals, hundreds of pictures were painted. Which is the best? Which bears the closest resemblance to the man himself? These are the questions the portrait committee must decide. Its verdict will undoubtedly be accepted by the whole country, not only for the present celebration but for generations to come.

The most popular portrait of Washington has always been the one executed by Gilbert Stuart. It has both dignity and elegance. The original, one of the best known pictures in the world, is now in the Boston Athenaeum. From this picture have been made millions of reprints and copies, some of the latter by the artist himself. While this picture has always led in popular fancy, there seems to be a growing demand for a picture of Washington which depicts him as a younger man—the Stuart picture was painted in 1796, only three years before Washington's death.

Other popular portraits are those by Charles Willson Peale, Rembrandt Peale, John Trumbull, James Sharples and Edward Savage. Each of these artists seems to have many followers who believe that their particular favorite best portrayed the subject. However that may be, the portrait committee will soon settle the question. Since the opinion thus reached will be that of leading artists and historians, it seems likely that it will be the final word.

The portrait committee which is to make this decision is composed of Dr. Leicester B. Holland, chief of the division of fine arts of the library of congress, chairman; Dr. Charles Moore, chairman of the Fine Arts Commission of the District of Columbia; Dr. John C. Fitzpatrick, manuscripts division, library of congress; Ezra Winter, Fine Arts Commission of New York; Dr. Albert Bushnell Hart, historian, Cambridge, Mass.; Colonel Harrison H. Dodge, superintendent of Mount Vernon;

and Gari Melcher, artist, of Falmouth, Va.

The second task facing the George Washington Bicentennial Commission is, in a way, the more difficult. By a specific act congress authorized the publication of Washington's writings. Dr. John C. Fitzpatrick of the library of congress, one of the foremost authorities on Washington and his time, has been selected to edit this work. When completed these writings will form a congressional memorial of the United States to the nation's most revered son.

While there is sufficient original material in the archives of the library of congress for 25 volumes, there are still many letters extant which have never been published. These "hidden" letters the associate directors of the George Washington Bicentennial Commission, Lieut. Col. U. S. Grant 3d, and Representative Sol Bloom of New York, are making every effort to obtain.

Washington was a diligent and prolific writer. In his habitually frank manner, he expressed his views and ideals on the leading problems of his day. The person who wants to understand Washington must go to his writings—his papers, journals, diaries and letters. Washington has left a more authentic picture of himself through his writings than is to be found in any of the hundreds of his biographies which have been written since his death.

The writings of Washington which are being compiled in connection with the Two Hundredth Anniversary of his Birth, will remain the fullest available Washingtonia for many years. The undertaking was made possible only by the financial provision of the United States Government. Such an enterprise may never again be attempted. It is because of these facts that the commissioners are desirous of making this compilation as complete as possible.

Dr. Fitzpatrick estimates that only one-half of Washington's letters have been published in the 131 years since the general's death. Where are the remaining letters? Undoubtedly many of them have been destroyed, some wilfully and some through carelessness. But there are

still many unpublished letters of Washington in existence. These the associate directors of the George Washington Bicentennial Commission are anxious to see.

Many of these letters are in the possession of people who do not realize their historical value. Every now and then a document is discovered in a most remote place and usually by accident. Because of the Westward movement after the Revolutionary War, these letters have been scattered throughout the United States. Also, because of the keen interest in Washington which has been taken by collectors and scholars, some letters have found their way into Europe and even Australia. An unpublished letter is likely to turn up at any moment in any part of the world.

The George Washington Bicentennial Commission does not ask any one to part with the original copies of such documents. It merely requests the privilege of examining such letters and, if found authentic, to be permitted to make reprints of them. Every effort is being made by the commission to locate such letters in order, to use the words of Associate Director U. S. Grant 3d, "to present to all Americans a composite picture of the Father of His Country through his writings—his physical appearance, his thoughts and actions, and his ideals."

— R —

RELAXATIVES

An Englishman, just returning to London from a visit over here, was much impressed with our slang phrase, "So's your old man." In telling his friends about it, he explained, "You know they have a deucedly funny saying ovah theh when they question wot you say. Instead of sneering, 'Fiddlesticks—or you don't mean it, old chappie,' they say, 'Oh, dash it, fawther is the same way.' Clevah, isn't it? Haw, haw."

* * *

"Mamma, how much do people pay a pound for babies?"

"Babies are not sold by the pound, dear."

"Then why do they always weigh them as soon as they are born?"

* * *

A butcher's delivery boy was run down by an automobile.

"Are you hurt, my boy?" asked the driver.

"Dunno," was the answer, "here's my heart and ribs, but where's my kidneys?"

JUST TO REMIND YOU

If you change your address or if the Journal is not delivered to you regularly please send a card directed to The Journal of the Kansas Medical Society, 700 Kansas Avenue, Topeka, Kansas.

If you are threatened with a suit or a suit has been brought against you for malpractice, write to Dr. O. P. Davis, Chairman of Defense Board, 917 North Kansas Ave., Topeka, Kansas.

If you want to buy instruments, office supplies or equipment, drugs or chemicals, books, or anything else, look through the advertisements in the Journal and if you don't find what you want write the Journal office and an effort will be made to find it for you.

If you have neglected to pay your dues for 1930, write the secretary of your county society and send a check for the proper amount to him.

If you move from the county in which you hold membership into another county in which there is a county society you should present your card to the secretary of that county society and send a notice of your removal to the secretary of the State Society, Dr. J. F. Hassig, 804 Huron Building, Kansas City, Kansas.

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No. 10

Acute Intestinal Obstruction

R. D. RUSSELL, M.D., Dodge City

Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

Acute intestinal obstruction is a symptom complex consisting of pain, vomiting, blocked bowel, visible peristalsis, and no fever. One, or even two, of these cardinal symptoms may sometimes be lacking but a combination of the five are the symptoms and signs upon which a diagnosis of ileus is usually made.

The *pain* is abdominal in type, sudden severe cramp-like, and colicky. Sleep is disturbed or impossible. The patient knows the very hour when his attack began. The pain is not referred to the bladder or under the right scapula. It is always present. Morphine obscures this symptom.

Vomiting is usually present, at first it is reflex, later it is constant from overflow of the stomach. It increases in frequency as time goes on and consists first of stomach contents, then the bile stained contents of the duodenum. Still later the vomitus is of brown fecal material, but the condition should have been recognized and relieved long before the appearance of fecal vomiting. Obviously the higher the obstruction, the earlier constant vomiting will appear. In low obstruction of the large bowel vomiting may not be present. Morphine destroys the significance of this symptom.

Blocked Bowel is frequently overlooked because the bowel may move once or twice after the obstruction has occurred. The bowel empties below the obstruction. But after this there is absolute constipation, neither gas or fecal contents are passed. Repeated enemas should be given. Cathartics must never be administered, they do no good but only harm. Occasionally we see patients who believe they have bowel obstruction because the bowels do not move and enemas are unproductive. This is not a

mechanical block, for they have no pain or vomiting.

Visible peristalsis is frequently though not always seen. It is very important. Associated with the four other cardinal symptoms it makes the diagnosis certain. Peristalsis can not be seen if the patient has had morphine. A fat abdominal wall obscures this sign, visible peristalsis is usually an early sign. It is very valuable in drainage appendix cases which develop ileus while still in the hospital and it is often the determining factor in deciding the diagnosis. Even in the presence of a drainage wound this sign promotes absolute confidence in the necessity of reopening the abdomen. In looking for visible peristalsis the entire abdomen should be exposed. The patient must be in a good light, and it is necessary to spend sometimes an hour or more inspecting the abdomen from above, lengthwise and crosswise. A careful inspection of the abdomen may result in the saving of the patient's life. A hasty glance at the abdomen is insufficient. Visible peristalsis does not always indicate obstruction for in cachectic individuals normal peristaltic waves may be seen. Babies may show this sign from a number of conditions. Visible peristalsis is pathognomonic of mechanical obstruction only when accompanied by the other cardinal symptoms.

Early uncomplicated obstruction usually has no *fever*. Fever is almost never present in uncomplicated cases.

The following may be regarded as occasional or minor signs:

Relaxed abdominal wall, tumor, bloody mucus from anus, distended abdomen, leucocytosis, and shock. Relaxed abdominal muscles are very often seen. The muscles are flaccid. Placing the hand on the abdomen gives one the sensation of palpating a rubber water bag filled with water and no air. This flaccid condition of the abdominal muscles makes possible

the phenomenon of visible peristalsis. If there is a considerable mass of strangulated bowel the abdomen will be rigid. In intussusception and cancer a tumor may be felt. Bloody mucus from the bowel is present in intussusception and at times in cancer.

Most textbooks stress distention of the abdomen. Marked distention, however, is a late sign except in low obstruction, and we should not wait for it. Early the abdomen will be neither scaphoid or distended to any degree. We must make our diagnosis before distention occurs.

The leukocyte count is not important. It will vary from low to high. It is of little value in making a diagnosis. In ileus there is apt to be an early primary shock but this soon passes away.

Because of the frequency of obstruction due to strangulation of a hernia both inguinal rings and both femoral rings should be carefully palpated in all cases in which intestinal obstruction is suspected. These examinations are frequently neglected.

A classification of intestinal obstruction is important. The following working classification may be used:

(1) *Dynamic Ileus* is that type in which the musculature of the intestine is contracted. This occurs in lead poisoning, certain cheese poisoning and in some diseases of the central nervous system, such as tabes dorsalis. (2) *Adynamic ileus*, in which the musculature of the bowel wall is paralyzed, as in peritonitis, torsion of the pedicle of ovarian cysts and fibroids, epididymitis, gall-stone and renal colic and reflexly with pneumonia and pleurisy. In this type of ileus the distention may be so symmetrical that no intestinal patterns are seen. (3) *Mechanical Ileus*, in which there is a definite mechanical obstruction to the lumen of the bowel, such as occurs in carcinoma, and in ileus due to bands of adhesions. (4) *Strangulation Ileus*, in which the vessels are involved as in embolism and thrombosis. The vessels may be secondarily involved, and mechanical ileus may become a strangulation ileus. In different types of paralytic ileus the vessels may also be primarily and secondarily affected.

Acute intestinal obstruction is usually caused by the following conditions: Strangulated hernia, adhesions following previous abdominal operations, adhesions after pelvic cellulitis, intussusception in infants and children, and malignancy of the large intestine. Intussusception in adults, volvulus, herniation of the intestine through the foramen of Winslow, and obstruction due to developmental anomalies are rare conditions.

The prompt diagnosis of this condition and the early resort to surgical relief of these cases is essential to their recovery. Without surgery all cases of complete, acute intestinal obstruction would die. There is no field in abdominal surgery that challenges our attention more than this.

Ileus is a surgical condition in which the mortality remains high. It has remained stationary or has been but slightly reduced in recent years. Improvements in asepsis and better clinical studies have apparently not reduced the mortality to any great degree.

The incidence of intestinal obstruction is increasing. Hundreds of thousands of laparotomies are being done every year. Each is potentially a case for ileus, and slightly less than half of the cases that develop it have had previous abdominal operations.

The responsibility of late operations is occasionally on the patient, rarely on the surgeon, but generally on the physician first called. In but few cases does the patient seek medical aid late. The sudden, severe pain urges the patient to send at once for a physician. The sufferer seems intuitively to realize that relief can not be expected from spinal manipulations or even radio consultation.

Much of the experimental work undertaken to determine the toxicity of the contents of an obstructed loop has been contradictory, and there is no unanimity of opinion among investigators as to whether a specific toxin is formed in the obstructed loop and as to the factors which influence the absorption of such a toxin, if present.

If the contents of the obstructed loop are toxic, and most of those studying the problem clinically and experimentally be-

lieve that they are, it is of prime importance to determine the factors concerned in the rate of absorption and how such absorption may be delayed or prevented.

Even if there is a mass of conflicting evidence, it seems safe to conclude that the contents of the bowel above the obstruction are toxic. The nature of the toxin is not known and the toxicity varies considerably. It is important to differentiate between mechanical and strangulation type, for in the latter we are dealing with substances encountered in moist gangrene associated with the toxemia of infection and tissue necrosis in addition to the obstruction. Toxicity is reduced by washing out the contents. The toxicity of the contents is increased when infected, as is indicated by one of Murphy and Brook's experiments in which the toxicity was increased when a streptococcal infection occurred in the closed loop. Animals with a closed loop may live a long while. They live longest when the closed loop is low down. If the bacterial content plays an important factor in the symptoms, low obstruction should have more marked and rapidly developing symptoms than high obstruction, because of the greater bacterial content of the lower bowel. The reverse of this, however, is true.

A study of the blood in obstruction reveals a leukopenia, slightly increased fibrin content, high nonprotein nitrogen, due almost entirely to an increase in the amount of urea, low chloride content and a high carbon dioxide combining power. In the scanty urine there is a trace of albumen, the nonprotein nitrogen excretion is increased, there is a low chloride excretion and traces of phenol and indican. Haden and Orr believe that the decrease in chlorides is due to fixation in the tissues of the chlorine with the specific toxin absorbed from the bowel. In support of this theory they have reported experiments in which dogs with high obstruction have been kept alive from twenty to thirty days by giving normal salt by hypodermoclysis. The fall, however, in blood chlorides is not always present in fatal cases of obstruction, and the fall is usually propor-

tional to the amount of chlorides lost in the vomitus or in the fluid which has accumulated in the bowel. Substitutes for salt are apparently ineffective in combatting this condition, and while life may be prolonged by salt solution, the animal eventually dies. The cause of death cannot be directly ascribed to one factor.

Dehydration has frequently been suggested as an important factor in death from obstruction. Draper, however, pointed out some years ago that the degree of dehydration observed in dogs with obstruction is no greater than that observed when dogs are fasting and still the clinical pictures are entirely different.

An analysis of the voluminous studies which have been made upon ileus is somewhat confusing because of the contradictory statements made by different investigators when engaged upon the study of the same phases of the problem. It may seem rather commonplace to state that successful treatment of ileus depends upon an early diagnosis. Until an early diagnosis is made the mortality will not be reduced. In order to make a diagnosis one must visualize what may occur in the abdomen, and this emphasizes the need of a definition and classification of ileus. One should know the age incidence of the different lesions, which may lead to interference with the lumen or peristalsis of the intestine.

In mechanical obstruction, providing strangulation has not occurred, a catheter should be inserted into the bowel above the point of obstruction after the obstruction has been removed. This helps prevent absorption of the toxic material from the obstruction loop. If, however, the case is so advanced that there is no peristalsis above the point of obstruction, naturally not much can be expected from the enterostomy.

In obstruction of the large bowel, frequently due to constricting carcinomas of the rectosigmoid junction or the sigmoid a colostomy may be performed. The possibility of perforation of the cecum in these cases should always be kept in mind. The insertion of a catheter into the cecum in these cases is frequently a

valuable procedure, for it relieves gas tension and guards against the development of distention ulcers.

In any case in which a resection is indicated, the proximal loop should be kept under control. It should be fixed in the abdominal wall so that it may be opened when indications for such a procedure arise. Control of the proximal loop is not infrequently vital in these cases.

In paralytic ileus due to peritonitis or other causes, the original lesion must receive appropriate treatment. In these cases an enterostomy is a valuable procedure. The enterostomy is preferably made in the jejunum. What the results will be is usually determined early, for if the paralysis is so far advanced that there is no peristalsis to force out the contents of the loop, the ileus will proceed to a fatal termination. The stomach may have to be washed out repeatedly in order to avoid dilatation and the accumulation of the material of the distended loops which pass back into it. Hypertonic salt solution, as advocated by Haden and Orr and others, is of value and should be employed, both as a pre-operative measure to reduce the operative risk, and also post-operatively.

The tragedy of ileus is due to late diagnosis. We can not save by surgery or other therapeutic measures those in the terminal stages of ileus. Intestinal obstruction should be recognized in its early stages when the obstruction, mechanical or paralytic, can be treated by appropriate surgical procedure. We can not expect to reduce the mortality in these cases until they are recognized and operated upon early. This is an ancient statement, but one that may be repeated with profit, and to our advantage, and that of the patient even at the present time.

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The Diagnosis of Acute Osteomyelitis

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Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

Acute osteomyelitis is not of frequent occurrence. At the Toronto Children's Hospital with a capacity of 262 beds, 207 cases were treated in 12 years. Platt reports that in England and Wales in the year 1926, there were 417 deaths from acute osteomyelitis and 2,710 deaths from acute appendicitis. The mortality of acute osteomyelitis has been estimated to be from four to six times as great as that of acute appendicitis. Congdon estimates that in his section of the country, perforations of gastric and duodenal ulcers occur more frequently than acute osteomyelitis, and that the general practitioner sees but one case of that disease in seven years. The infrequency of the disease causes it to receive little study by the men who first see it.

The early diagnosis of acute appendicitis is of little importance as compared with the much greater importance of the early diagnosis of acute osteomyelitis. The attack of acute appendicitis may subside; a localized peritonitis with pus formation may result; or there may be a gangrenous appendix with perforation. In any event, a late operation may result in complete recovery. The attack of acute osteomyelitis, if neglected, has a far greater possibility of death and the most favorable result of a late operation will be a deformed and crippled limb.

DIAGNOSIS

In establishing the diagnosis of acute osteomyelitis there are anatomical, physiological, pathological and clinical factors which must receive consideration.

Age—Acute osteomyelitis is a disease of childhood. It rarely occurs after the age of fifteen. Most cases occur between the ages of two and ten. Cases are seldom found after the epiphysis becomes united in bony union with the shaft.

Sex—Boys are affected about twice as often as girls. Their exposure to weather conditions, to injuries, and to infections is greater than that of girls.

Location of Infection—The localized infection usually occurs in the end of a long bone. The location in order of fre-

quency is as follows: The upper end of the tibia; the lower end of the femur; the lower end of the tibia and fibula; and the upper end of the humerus. Other locations are infrequent. Occasionally the infection occurs in a flat bone as the ilium or scapula. In about seventy-five per cent of all cases but one bone is involved. Two bones may be involved at the onset. A second bone occasionally is involved some length of time after the involvement of the first.

ETIOLOGY

Trauma—As a rule there is a history of an injury at the site of the localized infection. The injury may have been a bruise or a strain. There may have been a partial epiphyseal separation.

Malnutrition—Any debilitating disease as diabetes, nephritis or tuberculosis is a predisposing factor. The poorly fed and undernourished have the same predisposition. Keen says that a prolonged stay in the swimming pool predisposes to an attack. If this be true, the child who is taken out in cold weather with bare legs is subjected to the same risk.

Focal Point—Nearly always there will be found an infected skin lesion—a furuncle, an infected finger or toe, more rarely an infected umbilicus. In a small percentage of cases there will be found an infection of the mouth, throat, nose, or of the accessory sinuses.

Pathology—The infective agent is carried by the blood stream to the cancellous structure at the end of a long bone. The arrangement of the blood vessels in the cancellous portion of the bone is an admirable one for the arrest of blood-borne infection. The vessels are large, tortuous and contained within unyielding walls. The cancellous tissue is covered by a thin layer of compact bone traversed by many Haversian canals, and blood bearing interstices. The epiphyseal union is dense and prevents extension of the infection directly into the joint.

As the infected area spreads it spreads in the direction of least resistance, through the Haversian canals and through the blood bearing spaces of the interstices to the under surface of the periosteum, the infection then spreads very rapidly stripping the periosteum

from the surface of the bone. Necrosis of the bone follows and rapidly progresses. The periosteum has a firm and dense attachment at the epiphyseal line. This attachment keeps the infection out of the joint for a long time.

Recent and more careful studies at autopsy and recent careful animal experimentation have demonstrated to the satisfaction of those doing this work, that the early and the principal extension of infection is not into the medulla. Infection of the medulla occurs in the chronic stage of the disease.

Starr reports that in the clinic of the Hospital for Sick Children at Toronto, observations extending over a period of twelve years, showed the staphylococcus to be the infective agent in 71 per cent of the cases, and the streptococcus in 13 per cent. In a small percentage of cases a few other germs and combinations of germs were found to be the causative factor.

CLINICAL COURSE

The onset of acute osteomyelitis is sudden and severe. The outstanding and principal feature is terrific pain. It is increased by heat because the rigid cavities of the infected area are already tightly filled with the products of inflammation and heat brings more blood and increases the tension. Many years ago Nicholas Senn taught that before swelling or redness appears pressure with the finger tip over the metaphysis will locate a small point of pronounced tenderness over the infected area beneath the cortex. For several days, even after the infection has broken through the cortex and the limb is greatly swelled, the joint may be moved and manipulated freely without pain. Several days after the onset a serous fluid may collect in the joint. Its nature may be determined by aspiration.

The temperature, which may be preceded by a chill, rises to 103 or 104 degrees. There is a toxemia which is often pronounced and sometimes merges into coma. The pulse rises to 120 or 130 per minute. The white cell count is high, ranging from 20,000 to 30,000.

As acute osteomyelitis is a blood-borne infection, blood cultures will reveal the

infective agent in the early stage of the disease. Should the bacteriemia persist, the outlook is grave.

When the infection passes through the cortex to the under surface of the periosteum, it progresses rapidly, stripping that membrane from the bone. Necrosis of the bone rapidly follows. However, when the infection has broken through the cortex and involved the periosteum, the disease has passed from the acute into the chronic stage.

Roentgen-Ray Findings—In acute osteomyelitis the *x*-ray film is negative and valueless. Many cases have been improperly treated because the *x*-ray revealed nothing. When bone changes can be demonstrated by the *x*-ray, the case is no longer acute. It has become chronic and irreparable damage has been done.

SUMMARY

The early diagnosis of acute osteomyelitis depends upon a good working knowledge of the various factors of which the disease is made up. Briefly stated they are as follows:

1. Age.
2. Sex.
3. Location of infection.
4. Trauma.
5. Malnutrition and exposure.
6. A focal point.
7. The pathology of the disease.
8. The clinical course.

Acute osteomyelitis in the early stage is usually treated as rheumatism; sometimes as infectious arthritis. The infection is near the joint but not in it. This may easily be demonstrated by manipulation of joint.

In the case of acute osteomyelitis that is promptly recognized and promptly treated there will be no involucrum; there will be no sequestrum; there will be no question as to time or method of operation; there will not be a deformed and crippled child.

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A Clinic—"Jake" Paralysis

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and

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Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

[By special request these two cases of so-called "Jake" Paralysis then under treatment at the Santa Fe Hospital were presented before the Society.]

J.D.T., car oiler, white male, age 42, married twenty-five years, was admitted April 12, 1930.

His chief complaint was pain, aching and cramping in the abdomen, diarrhea, weakness, pains in the back.

His present illness started April 8, 1930, with a severe pain in the upper part of the abdomen, with a profuse diarrhea and weakness. For the next few days the patient continued to have the severe diarrhea, and the pain in the abdomen, if anything, became worse and this condition has been running along with the pain increasing, although diarrhea at the present time is not quite so bad as it was a few days ago.

April 13, the patient first noticed that his legs began to feel weak.

April 15, he noticed that the weakness was increasing and he was losing the use of his legs, ankles and feet, but he could still walk.

April 18, he could move his feet and ankles and legs, but they were very weak and he could not walk, and has never walked since. The weakness seemed to increase. Beginning April 24 the patient would wake up at night with a "pulling up" sensation of the legs. This condition lasted about ten days.

April 22, he noticed that his wrists, hands and fingers began to feel weak and three days later he had completely lost the use of his wrists, hands and fingers, and was unable to feed himself.

April 28, he became hoarse and in a very short time was unable to talk above

a whisper and had great difficulty in talking or trying to talk, as it was necessary to take deep inspiration and make forcible expiration to make a faint sound.

The patient stated that he had had some severe bilious attacks two years ago but had had none recently.

He had had the usual diseases of childhood and has had influenza, pneumonia, typhoid fever, malaria, Neisserian infection. Has had no operations or injuries.

He was married twenty-five years ago. He has one child living, two were born dead and two died of dysentery.

He has been employed by the Railway Company for seven years. Is employed at the present time as car oiler. He states that he has been having a cramping in the abdomen and for the last three months has been taking Jamaica ginger (one ounce three times a day after meals). During this time he states that he has taken ten or twelve bottles. The last was taken April 6, 1930.

He was examined on April 26, 1930, by Dr. M. L. Perry, who reported as follows:

"Tall well developed, well nourished man on stretcher. Unable to walk. Skin smooth and clear. No evidence of accidents or injury.

"Head normally formed. Temporal arteries rather tortuous. Eye movements normal. Pupils react to light and accommodation. Fundi normal. Expression on two sides of face equal. Tongue protrudes in median line. Muscles of face react equally. Teeth and gums in poor condition. Throat clear. Fauscial reflexes present. Hears watch only on contact. Hears well in conversation. Neck long, thyroid and other glands not palpable.

"Chest: Expansion equal and good. Lungs negative on auscultation. Heart rate normal, 84. Apex beat poorly defined. Heart seems to be about normal in size. Heart sounds normal. B. P. 170/90.

"No tenderness, soreness or masses in abdomen. Abdomen reflexes are not elicited. Cremaster reflexes absent. Musculature of arms good but a little flabby. On flexing elbow strength seems much

reduced, on extending elbow, seems normal. Hands in position of moderate wrist drop. Cannot extend wrist on forearm or finger on wrist. Can make a fist on left side, imperfect on right side. Grip greatly reduced, a little more reduction on right.

"Reflexes: Triceps right and left present and active. Biceps right and left absent. Supination and posterior forearm about normal.

"Musculature lower extremity normally formed, flabby. Lower extremity almost completely paralyzed. Can flex right knee slightly. Can abduct legs slightly. Patellar reflexes present but slightly reduced. Clonus, Gordon, Babinsky, Oppenheim absent. Soreness in calves of legs. Pressure on sciatic and popliteal nerves is felt. Nerves not enlarged and not tender. Plantar reflex is active when bottom of foot is stroked, the knees are flexed materially more than when patient is asked to bend them.

"Sensation pain touch, temperature and stereognosis normal.

"Mentality seems entirely clear.

"Two days ago (April 24, 1930) developed hoarseness and complains of secretion in throat. Also complains of a little difficulty on swallowing."

His urine was examined on April 13. It was found to be acid in reaction with a specific gravity of 1027 with no sugar or albumen.

A test of a twenty-four hour specimen of urine made on April 30, showed it to be negative for arsenic and also negative for lead.

A blood examination made on April 13 showed 12,400 W.B.C. with 60 polynuclear neutrophils and 40 lymphocytes. Another examination on April 28 showed 6,000 W.B.C., 80 per cent hemoglobin, 4,770,000 R.B.C., 69 polynuclear neutrophils and 31 lymphocytes. An examination on May 8 showed 9,400 W.B.C., 85 per cent hemoglobin, 4,720,000 R.B.C., 77 polynuclear neutrophils and 24 lymphocytes.

An examination of spinal fluid was made on April 30 by The Lattimore Laboratories. The report states a cell count is 11 per c.m.m. No bacteria are found

on direct smear or from culture. Colloidal gold 0000000000.

Wassermann test was reported negative by The Lattimore Laboratories on April 25, was also reported negative by the Kansas State Public Health Laboratory on April 30.

B.L.W., sheet metal worker, white male, aged 48, admitted April 25.

Patient gave history of having had a bad cough and cold a great deal of time during the past year, which he thinks is partly due to fumes of sal ammonia and muriatic acid, which are used in his work as sheet metal worker.

On April 1 he caught a severe cold and went to bed at Mulvane Hospital April 4, 1930. At this time he had a profuse expectoration and also pain in the chest in the precordial region. On April 8 cold and pain in chest had subsided. Out of bed, pain in calves of legs developed and had ankle drop. The following day, April 9th, could not use legs on account of weakness, also had pain in legs when he attempted to use them. Six days later, April 15th, he lost the use of arms, forearms and hands during the night. Two days later, April 17, he could use arms and forearms.

He entered the hospital on April 25 in about the same condition he had been for a week past. He had no pain, numbness or tingling of hands or feet. Said arms and legs felt normal but had no strength. States that on Christmas he drank one-third of half a pint of corn whisky and has drunk a little home brew since.

The record of his physical condition is as follows:

Good sized muscular man, well nourished, on stretcher, unable to walk. Skin clear except light bronz spots on body of long standing (*tinia versicolor*). No evidence of accident or injury. Head normally formed. Facial expression normal. Eye movements normal. Pupils react promptly. Fundi normal. Tongue protrudes in median line. Facial muscles respond equally. A few bad teeth, gums bad. Throat clear and faucial reflex present. Neck short. Thyroid and other glands not palpable.

Chest expansion equal and good. Heart and lungs negative. Heart rate 80. B.P. 130/85.

Abdomen: Normal formation. No masses or tenderness. Arms normally formed, well muscled but flabby. Strength against resistance good in extension of forearm and reduced in flexion of forearm. Hands in position of moderate wrist drop. Extension of hand on forearm very much reduced especially right. Cannot make closed fist either hand. Grip well.

Reflexes: Triceps normal. Biceps absent. Forearm reflex active on both sides. Legs partially paralyzed, can bend each knee limited extent. Abduction fairly good. Adduction of legs very limited. All motion in feet absent. Patellar reflexes present each side considerably reduced. No clonus, plantar reflex present. Strength against resistance very much reduced. No Babinsky, Oppenheim or Gordon. Popliteal nerves not enlarged, quite tender on right side, less so on left. Complains of even slight pressure on calf muscles. Thigh muscles not sore. Ulnar nerve not sore, rolled under fingers.

Sensation normal throughout. Mentality not affected.

Examination of urine on April 26 showed that it was acid in reaction with a specific gravity of 1020. There was no albumen or sugar. Tests of a twenty-four hour specimen of urine made on April 30 were negative for arsenic and negative for lead.

Blood examination on April 28 gave 12,800 W.B.C., 75 per cent hemoglobin, 4,920,000 R.B.C., 70 polynuclear neutrophils, 28 lymphocytes. Another examination on May 8 showed 8,600 W.B.C., 75 per cent hemoglobin, 4,990,000 R.B.C., 70 polynuclear neutrophils, 30 lymphocytes.

Wassermann reaction was reported negative by The Lattimore Laboratories under date of April 26 and was also reported negative by the Kansas State Public Health Laboratory under date of April 28, 1930.

The spinal fluid was examined April 30 by The Lattimore Laboratories and the following report submitted:

Cell count is 6 per cu. mm. No bacteria are found on direct smear or from culture. Colloidal gold, 0000330000.

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The Cause of "Jake" Paralysis

F. R. MILLIS, M.D., Kansas City, Kan.

Read by special permission before the Kansas Medical Society, Topeka, May 6, 7 and 8, 1930.

This will simply be a preliminary report on the isolation of the active principle of Jamaica ginger poison. Since the first few cases of Jamaica ginger paralysis, we have all been more or less interested in determining the exact cause. While there are reports that some of the people paralyzed have not been drinking "jake," it is extremely uncertain whether or not that was the case. Also it is possible that we may have an epidemic of an apparently similar disease concurrently. The large percentage of patients knew definitely that Jamaica ginger was the cause of their illness. Our first thought of course was that some ingredient had crept into the mixture through bootleg channels. However, my experiments have shown that it is an active principle in the ginger root.

The method used in securing the active principle thus far is by fractional distillation. The aldehydes which are present in all alcohol evaporate at a much lower temperature than the alcohol itself. It is impossible to use absolute alcohol for manufacturing purposes, on account of the prices being prohibitive. By a fractional distillation we have brought over with the aldehydes the active principle of the poison. Less than one-half of one per cent of the solution comes over under this method. Apparently the chemical that does the most damage is extremely volatile. Our experiment has shown that if the container is left open to the air or exposed to the light, a few hours exposure lessens its potency very greatly.

We have injected guinea pigs with the genuine Jamaica ginger and there was no reaction other than that caused by the alcohol. We have injected pigs with the tails or end product of the distillation and had no reaction.

The heads or aldehydes are the first product over in the process of distilla-

tion. When a few drops of this is injected into the pigs, within a very few minutes paralysis develops. The amount of paralysis will depend entirely upon the size of the dose given. Ten drops is usually fatal within less than forty-eight hours.

Ginger, according to the United States Dispensatory, is the dried rhizome of *Zingiber officinale* Roscoe (Family of Zingiberaceae) known in commerce as Jamaica ginger, Cochin ginger, and African ginger. The outer cortical layers are often either partially or completely removed. Ginger yields not less than two per cent non-volatile ether-soluble extractive and not less than twelve per cent of cold water extractive. There are about seventy species of the genus *Zingiber*, the commercial ginger being obtained from *Zingiber officinale*. This species is a native of tropical Africa, but now extensively cultivated in tropical countries of both the Eastern and Western Hemispheres. It has been introduced into southern Florida where it thrives in rich soil and partial shade. The uncoated ginger of the East Indies resembles Jamaica, but is darker, being gray rather than whitish. As the Jamaica brings a higher price than even the uncoated East India production, the latter is occasionally altered to simulate the former. This is sometimes done by coating the exterior with calcium sulphate or carbonate, sometimes by bleaching with the fumes of burning sulphur or in other ways, by which not only the exterior but also the internal parts are rendered whiter than in the unprepared root. Commercial gingers are known as "scraped," "decorticated," and "uncoated." The "scraped" gingers are those from which the cortex has been removed in whole or in part by peeling, as seen in the Jamaica and in some Cochin and Japanese varieties. In the coated gingers a portion of the outer natural layers are retained as in the African, Calcutta and Calicut varieties. Bleached and unbleached gingers are also distinguished, the former being lighter in color due to careful washing or special treatment. The U. S. P. No. 10 recognizes only the Jamaica, African and Cochin

gingers. Of these, the Jamaica is the most aromatic and the African the most pungent.

CONSTITUENTS OF GINGER

The peculiar flavor of the root appears to depend on the volatile oil. Its pungency is due to a yellowish liquid called gingerol. This is a mixture of homologous phenols of the formula $C_{16}H_{26}O_3$. $(CH_2)_{20}n$. Zingerone, $C_{11}H_{14}O_3$, is crystalline and has a sweet odor and an extremely pungent taste; it is chemically related to vanillin, and is formed when gingerol is treated with baryta water. The pungency of gingerol, in contrast to that of capsicum, is destroyed by heating with alkaline hydroxides. The volatile oil is yellow with a sp. gr. of from 0.875 to 0.890 and an optical rotation of about -25 degrees to -45 degrees (the Japanese ginger is said to yield an oil which is dextro-rotatory). It consists largely of a mixture of terpenes, camphene, phellandrene and a new sesquiterpene, which the discoverers, von Soden and Rojahn call Zingiberene. There is also some citral, cineol and borneol in the oil. There is present in the root a considerable proportion of starch.

VOLATILE OILS

These are sometimes called distilled oils, from the mode in which they are usually procured; sometimes essential oils, from the circumstance that they possess, in a concentrated state, the organoleptic properties of the plants from which they are derived. The word essence, is used in some countries to designate the volatile oils themselves, but in America this word has unfortunately been largely applied to the alcoholic solutions of the volatile oils, usually called the spirits, and the word soluble essence has been used to describe hydroalcoholic solutions of volatile oils which possess the property of mixing clear with water.

The term Aetherolea is used in some countries to distinguish the volatile oils in general from those which are produced by destructive distillation, like oil of amber, oil of cade, oil of tar, etc., which are given the collective name pyrolea (pyroligneous oils).

They exist in most odoriferous vegeta-

ble tissues, sometimes pervading the plant, sometimes confined to a single part; in some instances contained in distinct cells, and partially retained after desiccation, in others formed upon the surface, as in many flowers, and a third in the rind of its fruit. In a few instances, when existing in distinct cells, they may be obtained by pressure, as from the rind of the lemon and orange; but they are generally obtained by steam distillation. Some volatile oils, as those of bitter almond and mustard do not pre-exist in the plant tissue, but are produced by a chemical reaction which takes place between certain constituents in the presence of moisture.

The volatile oils are usually colorless when freshly distilled, or at most yellowish, but some are brown, red, green, or blue. There is reason, however, to believe that in most instances the color depends on foreign matter dissolved in the oils. Septimus Piesse succeeded, by the fractional distillation of certain volatile oils, in separating a blue liquid, which by repeated rectification, he has obtained quite pure.

In this state it has the sp. gr. 0.910, and a fixed boiling point of 302.3 degrees C., and yields a dense blue vapor having peculiar optical properties. He named this principle azulene, and believed that upon it depends the blueness of volatile oils wherever existing. The yellowness of the oils he ascribed to the resin resulting from their oxidation, the green and brown colors to a mixture of azulene and resin in various proportions. The formula of azulene he gave as $C_{16}H_{26}O$. Gladstone named this blue coloring constituent caerulein, and stated that it contains nitrogen and is colored green by acids and alkalis.

Azulene was later investigated by Sherndal, who assigns to it the formula $C_{15}H_{18}$, which places it in the class of hydrocarbons. He states that it yields a dihydrosequiterpene, $C_{15}H_{23}$, upon reduction and believes it to be related to alpha gurjunene, $C_{15}H_{24}$, a tricyclic compound existing in gurjun balsam.

The volatile oils have a strong odor, resembling that of the plants from which they were procured, though generally

less agreeable. Their taste is hot and pungent, and when they are diluted, is often gratefully aromatic. The greater number are lighter than water, though some are heavier; their sp. gr. varies from 0.847 to 1.17. They vaporize at ordinary temperature, diffusing their peculiar odor, and are completely volatilized by heat. When distilled alone, they nearly always undergo partial decomposition. Heated in the open air, they take fire and burn with a bright flame attended with much smoke. Almost all of them are optically active, and advantage may sometimes be taken of this property to detect adulterations of one of these oils with another. The refractive index is another physical constant that is being studied in connection with volatile oils, but the accumulation of data is not yet sufficiently large to give the factor much value as yet. Exposed at ordinary temperatures, some of them absorb oxygen, assume a deeper color, become thicker and less odorous, and are ultimately converted into resin. This change takes place most rapidly under the influence of light. Before alteration is complete, the remaining portion of oil may be recovered by distillation.

It is said that volatile oils which resinify and assume a turpentine odor, can be kept indefinitely by adding sodium bisulphite in the proportion of 50 grains to 1 pound. They can also be preserved by the addition of 5 per cent of a fixed oil, such as cotton-seed or olive oil.

CLASSIFICATION

The volatile oils are sometimes hydrocarbons although with these are frequently associated alcohol or ketone-like bodies called camphors, and products of oxidation known under the general name of resins, and undoubtedly formed from the hydrocarbons. Phenols, aldehydes, esters, ethers, and sulphides are also represented. The hydrocarbons are generally known as terpenes, from oil of turpentine, which is taken as a type. *Olea aetherea sine terpeno* is the name proposed by Schweissinger for concentrated volatile oils made so by the removal of the non-fragrant hydrocarbon, and representing from two to thirty volumes of the oil of anise, cassia, fennel, ginger

grass, *mentha crispa*, *mentha piperita*, cloves, sassafras, and star anise; two and one-half volumes of the oil of bergamot, caraway, and lavender; four volumes of eunin and rosemary; five volumes of thyme; six volumes of coriander; eight volumes of calamus; ten volumes of absinthe; twenty volumes of juniper; thirty volumes of angelica, lemon and orange. It is asserted that these concentrated oils are more permanent, more soluble in alcohol and in water, have a finer odor, and are of constant composition, thus enabling the specific gravity and boiling point to be used as tests of purity. They should be kept in the dark. Under the name of "terpeneless volatile oils," similar products can now be found in the market especially for use in perfumery and in the manufacture of flavoring extracts; they are undoubtedly superior to the ordinary volatile oils in odor and strength, but are not medicinally equivalent. Wallach, to whom much of our knowledge on volatile oils is due, divides the hydrocarbons into classes as follows:

1. True terpenes, of the formula $C_{10}H_{16}$, of which there are two main groups: (a) the terpene group, uniting with two molecules of haloid acid or four atoms of bromine; this group includes limonene, dipentene, sylvestrene, terpinolene, terpinene, thujene, and phellandrene, and its members boil between 175 degrees and 185 degrees C.; (b) the camphane group, uniting with one molecule of haloid acid or two atoms of bromine; this group includes pinene, bornylene, camphene, and fenchene, and its members boil between 151 degrees and 161 degrees C.

2. Hemiterpenes, of the formula C_5H_8 , such as isoprene.

3. Polyterpenes, such as cedrene, cubebene, cadinene, etc., of the formula $C_{15}H_{24}$ (sesquiterpenes); colophene, of the formula $C_{20}H_{32}$; and caoutchouc, of the formula $(C_{10}H_{16})_x$.

Hydrocarbons other than those of the terpene class, or derivable from them, occur very sparingly in the natural oils. Thus there is of the paraffin series of saturated hydrocarbons, heptane, C_7H_{16} , occurring in the oil from the *Pinus sa-*

biniana, or California digger pine, and solid hydrocarbons of the same series in oil of rose, and probably in oils of wintergreen and sweet birch. Of the benzene series there is a single representative in cymene, $C_{10}H_{14}$, found in the oils of the *Thymus* and *Monarda* species.

In addition to these naturally occurring hydrocarbons, there is a class of artificially prepared hydrocarbons known as hydroterpenes, such as dihydrodipentene from dipentene, menthene and carvomenthene from menthol and carvone.

The terpenes in general are practically insoluble in water, but soluble in alcohol, ether, chloroform, benzene, petroleum benzin, and the fixed and volatile oils.

We now come to the point of determining whether or not the paralysis portion of the Jamaica ginger is a combination of aldehydes with adulterants that have slipped into the ground root or whether or not it is one of the known constituents of the ginger. This will require further study in order to bring out the physiological action of each one of these constituents about which there is apparently very little known at the present time. I have doubts that we are on the verge of discovering any new chemical compound. It would seem more logical to suppose that one of the volatile principles that has had ample opportunity to escape during the process of aging, or break down into a harmless compound in the past; when ginger was used solely for medicinal purposes, were the cause of the paralysis. Nowadays apparently, the time has been too short between maker and drinker for these volatile essences to evaporate.

I have a few guinea pigs here and will proceed to inject them with varying doses, so that you may observe the rapidity with which this product works. We have held an autopsy on many of the pigs, but only to determine the cause of death and in the cases that we examined, we find a ruptured heart showing an acute dilation of the right side.

R

"Uncle," asked the pride of his dotting relative, "are you still growing?"

"No, Johnny, why do you ask?"

"Cause the top of your head sticks up beyond your hair."

An Epidemiological Investigation of Jamaica Ginger Paralysis Cases

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During the latter part of February, the public press carried news items from various sections of the state, relative to the prevalence of numerous cases of paralysis which had developed following the use of Jamaica ginger extract as a beverage. Subsequently, a few case reports were received by the State Health Department, although rules and regulations provide for immediate notification if unusual numbers of cases of uncertain or indefinite etiology develop. Therefore, in order to determine the actual number of cases of paralysis which had occurred, a letter was addressed to each city and county health officer on May 2, requesting him to immediately report the total number of cases that had occurred in his city or county. Replies were received from each of the health officers and 690 cases were reported. Supplemental reports received from the health officers indicated that a majority of the patients afflicted had used Jamaica ginger extract as a beverage for a number of years. For this reason, it was our opinion the paralysis had not resulted from the use of the ginger alone. "It soon became evident, therefore, that the condition must have resulted from some unknown poison or from some known poison whose pharmacologic action was so altered through the ginger or the alcohol, or both, as to render it unrecognizable, which poison in some way got into a manufactured lot of so-called U. S. P. fluid extract of ginger at a relatively recent date."

In order to determine the relationship of ginger to the development of the paralysis, case histories were secured of 113 patients. These histories were secured and the patients examined by representatives of the state, city and county health departments and physicians in private practice co-operating with the state health department. The period of onset ranged from February 10 to April 5, the greater number occurring during the last two weeks of February and the first two weeks of March.

Case reports were received as follows: City of Wichita, 402 and Sedgwick County, 23; Butler County, 64; McPherson County, 30; Cowley County, 22; Saline County, 19; Lincoln County, 15; Norton County, 14; Marion County, 11; Sumner County, 9; Ellsworth, Kingman and Russell counties, 8 each; Ford County, 7; Reno County and City of Hutchinson, 2 each; City of Topeka and Shawnee County, 2 each; Montgomery County, 4; Harvey County, 4; Clay and Barber counties, 3 each; Jewell, Osage, Morris, Lyon, Elk, Wilson and Rush counties, 2 each and 1 from each of Clark, Cloud, Crawford, Bourbon, Labette, Meade, Mitchell, Pottawatomie and Rooks counties.

All of the patients interviewed were of the white race with one exception. It is believed this ratio was approximately the same for the total of reported cases.

The great majority of patients afflicted were males, the ratio being approximately twenty to one. Of the 113 patients interviewed, five were women and ranging between nineteen and twenty-nine years of age. The age of the youngest male reported was given as seventeen years. One hundred of the 108 men were over thirty years of age, seventy-two of them in the age group between thirty and forty-nine years.

Fifty of these patients admitted they had used Jamaica ginger only, as a beverage, while fifty-nine stated they had used Jamaica ginger, bootleg whisky or alcohol. One patient stated he had used only alcohol and three denied the use of Jamaica ginger or other alcoholic substance as a beverage. One of these men, however, did admit he had used one teaspoonful of Jamaica ginger extract for the treatment of what he termed a "stomachache" and a second admitted the use of a cup of ginger tea for the treatment of a stomach disorder. Only two of the patients interviewed, therefore, did not admit having used some form of ginger previous to the development of the paralysis.

The period of onset of the paralysis following admitted use of the ginger extract ranged from two days to more than twenty-one days. The average time ap-

peared to be about fourteen days. Histories were secured from nine patients who stated they had last used Jamaica ginger more than twenty-one days before the first symptom developed. In many of the cases, nausea, vomiting, abdominal pain and diarrhea occurred. This condition usually lasted only one or two days.

Only seven of the patients stated the paralysis had not interfered with the performance of their usual duties. Although unable to work, because of the paralytic condition, thirty-seven had not been confined to bed. All other patients, according to information received, had been confined to bed for periods varying from one to twelve weeks; fifty-six averaging approximately five weeks confinement to bed at the time the histories were secured.

The symptoms and physical findings were remarkable in their uniformity. The quantity of Jamaica ginger consumed, apparently was not a deciding factor in the development and extent of the paralysis. As previously stated, one patient gave a history of having used a single teaspoonful of the extract, yet developed a definite paralysis of both legs with foot drop and partial paralysis of both forearms and wrist drop. Almost without exception, when a patient was asked as to what symptom he noticed first, he would reply by taking hold of the calf of his leg and saying "cramping pains in here." In the majority of cases, the "cramping condition" was present from two to five days before the paralysis developed. Many patients stated they realized paralysis had occurred when they were unable to move their toes and their "feet flopped" when they attempted to walk. Patients who developed paralysis of the arms and hands complained of similar "cramping pains" in the muscles of the hands and forearms, although of lesser degrees. These pains occurred on an average of seven to ten days after the muscles of the legs were attacked. Upon examination, the disability of the hands and forearms was never so marked as in the feet and legs.

Smith has described the symptoms of a typical case: "Clinically the victims

presented bilateral wrist drop and foot drop of varying degrees of severity. The milder cases could get about with the aid of canes or crutches; the severer cases were bed-ridden and in many instances were unable to feed themselves. The paralysis in the upper extremities has not been seen to extend beyond the elbows, and in the lower extremities the thigh muscles were seen to be involved in the more advanced cases. There are no sensory disturbances, no impairment of tactile, pain, or temperature sensations; the superficial reflexes are normal; the spinetors are normal; there are no visual disturbances; and there is no evidence of involvement of the cranial ganglia or nerves. In brief, the clinical picture is uniformly that of a flaccid paralysis for the most part of the distal muscles of the lower and upper extremities, clearly pointing to involvement of the lower motor neuron remarkably localized to the lower lumbar and lower cervical regions of the cord. Indeed, the only physical sign that in our experience presented any degree of inconstancy is the knee jerk, which has been found diminished or absent in the severer cases, as one would expect, normal or nearly normal in the milder cases and markedly exaggerated in some of the milder ambulatory cases."

Examination of numerous patients showed the condition was not a pure alcoholic neuritis. Poisoning from arsenic, lead and other heavy metals was soon eliminated as a possibility. There remained then the possibility of poisoning from some adulterant contained in either the ginger, or alcohol, or both. Many samples were collected by representatives of the state health department and examined in the Food and Drug Laboratories of the department. Reports indicate that no substance was found in the alcohol which would account for the paralysis, but some compound was found in the ginger which as yet has not been identified.

The United States Public Health Service made an investigation of the "epidemic" in several different states and also collected samples of the suspected ginger extract which were examined at

the Hygienic Laboratory. Smith who made a personal investigation of numerous cases and was in charge of the Pharmacological and Chemical studies recently drew the following conclusions in a preliminary report:

"1. Adulterated gingers with a reasonably certain or highly probable history of paralysis in man have yielded distillates, upon saponification and subsequent acidification, giving a positive reaction for phenols; while unsuspected adulterated gingers, as well as U.S.P. fluid-extract of ginger, treated similarly, failed to give such a reaction.

"2. Suspected adulterated gingers have invariably proved toxic in rabbits in moderate doses; death, which is due to respiratory paralysis, is preceded by a symptom complex resembling very closely in its essentials, though not absolutely, systemic phenol poisoning. Unsuspected adulterated gingers in large doses, as well as U.S.P. fluid extract of ginger, failed to produce such effects.

"3. All adulterated gingers examined, including the suspected ones giving a positive reaction for phenols, proved practically uniformly harmless in monkeys. A few experiments on dogs were likewise essentially negative.

"4. Chemical and pharmacological evidence indicate that the phenolic substance in the suspected gingers is a stable combination of phenols, probably in the form of a phosphoric acid ester or some related substance, which resists hydrolysis and requires drastic treatment with alkali and heat to effect complete saponification. The pharmacologic experiments furthermore indicate that this stable phenolic compound breaks down with great ease in the rabbit and apparently not at all in the monkey. The few observations we have in the dog show that it, too, is unable to liberate the phenols from this firm combination.

"5. The precise relation of this phenolic compound either by itself or in combination with the other ginger constituents to the multiple neuritis in man is as yet not clear. Before we can be certain of the etiologic relationship it will be necessary to find means of reproducing the human disease in animals more

faithfully than we have been able to do so far. The remarkable difference in species susceptibility we have observed tempts one to venture the suggestion that as regards susceptibility man may stand in some intermediary position between the rabbit at one extreme and the monkey at the other. Until some satisfactory explanation of this difference in species susceptibility becomes available, the suggestion may be considered as purely speculative. We may express the hope, however, that with more chemical information on this phenolic compound and a better knowledge of its action in the animal body its etiologic relationship to the human disease may become more apparent."

In a communication received under date of August 20, the following statement was made: "The exact nature of the pharmacology of the compound which has been found uniformly present in suspected ginger and absent in unsuspected ginger is as yet unknown. From its chemical behavior it appears to resemble a phosphoric acid of ester of one of the cresols. Its resistance to heat, the strong alkali and extreme heat required for its saponification, and the fact that phosphate has been found in the suspected gingers, would make it very probable that it may indeed be the ester suggested. Further studies of the subject are being continued by the Public Health Service."

Four deaths had been reported to August 1.

REFERENCE

Pharmacological and Chemical Studies of the Cause of So-Called Ginger Paralysis, (A preliminary report). Public Health reports, July 25, 1930, Volume 45, Number 30, pages 1703-1716.

R

Pyelitis

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Read before the Wyandotte County Medical Society, April 1, 1930.

If we look in Dorland's Medical Dictionary for a definition of Pyelitis, we find the following explanation:¹

"Inflammation of the pelvis of the kidney. It may be due to renal calculus, to extension of inflammation from the bladder, or to stagnation of the urine. It is attended by pain and tenderness in the loins, irritability of the bladder, remit-

tent fever, bloody or purulent urine, diarrhea, vomiting and a peculiar pain on flexion of the thighs." It is clearly illogical to assume that pyelitis is confined within definite anatomical lines. However, for the purposes of this paper, we will assume pyelitis to be the non-suppurative types of pyelonephritis.

HISTORY

The presence of pus in the urine has been recognized as the result of a nephritic infection since the time of Hippocrates, Galen and Aetius, but it was not until 1837 that Royer² recognized and described pyelitis as an entity. Little more progress was made until 1894, when Escherich³ thought the condition was limited to girls and considered pus in the urine due solely to cystitis. The present knowledge concerning pyelitis has been acquired in the last twenty to twenty-five years.

Due to the time limits placed upon this paper, it will be impossible to discuss the subject thoroughly, so we must be content to mention the more important factors which we are called upon to deal with so frequently, and all too often considered so lightly.

MORBID ANATOMY

Osler⁴ states that, "In the early stages of pyelitis, the mucus membrane is turbid, somewhat swollen and may show ecchymosis or a grayish pseudo-membrane. The urine in the pelvis is cloudy and on examination numbers of epithelial cells are seen."

In calculous pyelitis, there may be an extension of a suppurative process into the kidney substance causing a pyelonephritis, or more extensive destruction producing dilatation of the calyces with atrophy of the kidney substance and finally a pyonephrosis.

Tuberculous pyelitis follows a similar course except that the destruction usually begins at the apices of the pyramids.

ETIOLOGY

An infection is under consideration, therefore this implies growth of organisms in tissues, this then requires proper type of seed and a fertile soil with suitable growing conditions.

It has been proven repeatedly that

bacteria pass through the kidney and if damage is done, recovery is so rapid and complete that postmortem reveals no damage.

Numerous types of bacteria have been found in the infected urine, although the varieties that show any preponderance at all are very limited. The allied colon bacilli are found in 85 per cent of the cases. Straphylococci 10 per cent and streptococci and *B. Proteus Vulgaria* 5 per cent.⁵

Helmholtz and Bowers⁶ proved that it is necessary to have a particular strain of organism. In 1917, they found that they could produce renal lesions in 66 per cent of experimental cases on rabbits, by injecting intravenously, and in 11 per cent when injected into the bladder. When this strain was lost, it was 8 years until they obtained a strain from the urine of a child which produced lesions in 100 per cent of the experimental cases. It is quite generally accepted that some organisms have a predilection for the kidney.

The soil and the suitable diminished resistance are produced by the parenteral infection or enteritis.⁷

There are three routes to the kidney by which the infection may travel; i.e. blood stream, lymphatics, ureters.

The organisms circulating in the blood, as Rosenow has shown may have a predilection for the kidney. It is not the function of the kidney to kill these organisms, but rather the duty of the spleen, liver and lymphatics. It is still an open question as to whether the kidneys can eliminate live virulent bacteria without being injured. In many acute infections, typhoid, pneumonia, etc., the specific organism has been recovered.

It has been shown experimentally that infection could spread by direct extension from neighboring organs by way of the lymphatics, but it has never been proven that such has happened. The preponderance of opinion today, however, is that infection of the renal pelvis is by the ascending route.

Deductions that Helmholtz and Bowers made from their work was that involvement of the bladder was primary and upper tract infection is brought about by

ascending infection from the bladder.

Although, proven in several instances, it is not entirely accepted that renal pelvic infection extends by way of the ureteral lymphatics.

Undoubtedly the ureteral route is of greatest importance in the upper urinary tract infection. Hindman points out that unless we accept the theory that certain organisms have a particular affinity for the kidney it is difficult to explain why infections begin without obstructions.

Hunner⁹ substantiates the experimental work of V. C. Dand, also Beeler and Helmholtz. He believes that cystitis precedes pyelitis and in 100 per cent of his cases he found a focus of infection and ureteral stricture. He quotes Dr. M. Schreiber whose work on Cadavers is not yet published, stating that in 12 per cent of the cases there are lesions which conform to our ideas of stricture, i.e., "a thickening of the ureteral wall sufficient to cause dilatation of the tract above," a temporary thickening enough to cause stasis can result when the primary bladder infection causes infiltration and edema of the bladder wall, resulting in partial closure of the ureteral os. If there is obstruction enough to produce stasis, decomposition of the urine begins and infection is an early result, then pyelitis follows.

Eisendrath and Shultz¹⁰ present further evidence that infection can travel upward with partial obstruction. Kretchmer,¹¹ Thomas¹² and Birdsall, Lawsley and Butterfield,¹³ C. K. Smith¹⁴ and others have demonstrated that pyelitis has been associated with congenital malformations in the kidneys, ureters or bladder. Congenital anomalies are much more prevalent than once thought, and include aberrant renal artery to lower pole of kidney over which lower part of pelvis may be hung producing some obstruction; double ureters, abnormalities in placement of ureteral opening into bladder, etc. Then too there are the pathological conditions of calculi, tumor or extra urinary tract conditions that by pressure or tension may produce obstruction to urinary flow.

Eberbach¹⁵ states that infections of the kidney are secondary to some focus

of infection, that such infection tends to be self limited, but persists if there is obstruction to urinary drainage and tends to reinfection.

OCCURRENCE

Pyelitis or pyelonephritis is the most common lesion of the genito-urinary tract. In children under two years of age, pyelitis is not uncommon and is about equally divided between the sexes. In later infancy, pyelitis is at least twice as common among girls as boys.¹⁶

In obstetrics pyelitis is met with as a frequent complication of pregnancy. Pugh, in 1927, emphasized the fact that the majority of his patients having pyelitis during pregnancy gave a history of kidney infection in infancy or at some early time.

The reviews by Dr. Eugene Dozsa¹⁷ present the facts that obstruction plus infection are always the causative factors, he states that the majority of pyelitis in pregnancy cases occur in the primipara, and offers as a suggestion the increased inter-abdominal pressure as offered by the less relaxed abdominal muscles.

Some evidence has been given that proves hypertrophy and hyperplastic changes in the low segments of the ureter, similar to the lower segment of uterus. Hofbauer thinks this is sufficient to produce obstruction.

There is considerable speculation as to why the right ureter is so much more frequently involved than the left. Duncan found the right ureter dilated in 100 per cent of his cases in both primipara and multipara and the left 66 per cent and 77 per cent respectively.

Post operative cystitis is another type of insult and Cabot's work at the University of Michigan proves the value of emptying the bladder at regular ten hour intervals, rather than allowing over distention with compression of the mucosa blood supply necrosis and cystitis, which if we are to believe these various works antedates pyelitis.

There is another type of pyelitis that is seldom mentioned, known as pyelitis follicularis. Hundley and Carson¹⁸ report three cases and make mention of

the rarity of these cases reported in literature.

This type is very difficult to diagnose and is found most frequent at autopsy or operation on kidney. It is felt by some that pyelitis follicularis with its lymphoid hyperplasia and associated vascularity may be the cause of one type of painless hematuria which has heretofore been classed as essential hematuria.

SYMPTOMS AND DIAGNOSIS

The diagnosis of pyelitis rarely requires cystoscopy, unless it is necessary to differentiate from some complicating intra-abdominal acuteness.

The onset is sudden with chills, sweats, malaise, wide variations in temperature, usually an accompanying cystitis of varying intensity. There may be attacks of pain on the affected side not reaching the severe agony of renal colic. There is likely to be tenderness on pressure or ballotment of the kidney and possibly tenderness along the affected ureter.

The urine becomes turbid and contains pus cells, some mucus and occasional red blood cells, it may be acid or alkaline and usually shows a high degree of albuminuria compared to the pyuria. Notwithstanding the fact that renal pelvic cells and bladder cells are both of a transitional type, it is true that in pyelitis these tailed cells are of distinctive importance, for in cystitis alone long searching is necessary to find this type of cell.

The attacks of pain, fever, chills, etc., may be of an intermittent nature. Coincident with these attacks of pain a tumor mass may be felt in the side, demonstrating a retention. During this stage the urine voided may appear quite clear and free from the pelvic type of cells.

With the release of this retained urine the tumor mass disappears as does the acute pain in the side, the patient voids urgently and frequently large quantities of turbid urine, containing many pus cells and renal pelvic cells.

It is scarcely necessary to try to outline symptoms or diagnosis of the more chronic types, since these chronic cases are really not strictly pyelitis infections, but involve more complicated strictures.

TREATMENT

Broasch and Cathcart¹⁹, in a study of over two thousand cases, bring out an interesting statement that in treating chronic infections of the upper urinary tract by all methods, only one-third the patients get well, one-third improve and one-third grow progressively worse.

Foci of infections, particularly of the ears, nose, sinuses, throat, teeth and intestinal tract should be cleared up, as the patient's ability to resist and overcome infection depends largely upon his general health.

The urinary organs may be given every opportunity to function normally and throw off the bacteria but it is the duty of the body tissue to destroy the bacteria.

Treatment falls quite generally into two groups i.e., medical and surgical.

Medical treatment according to the literature is quite variable and includes even the use of neo salvarsan, transfusions and reaction from foreign protein. However, diet correction, forcing fluids, rest and alkalization have been used for over a century. The use of alkalis as explained by Helmholtz, may prevent absorption of toxic products, but the chief value is its diuretic action. He also explodes the theory that there is any value in rapid changes from acid to alkali.

Methamine (hexamethylamine) or urotropin is probably the most popular drug. In order to insure an acid medium in which the formaldehyde is liberated it is frequently combined with acid sodium phosphate or ammonium chloride.

Urotropin is a drug as is hexylresorcinol which has given some degrees of success, yet little experimental support can be offered to substantiate these results.

The drug may produce kidney pain associated with albumen and red blood cells and should then be discontinued.

Mercurochrome has been used intravenously with probably more results against it than for it. Other drugs as salol, boric acid, methylene blue, acriflavin and others have been used with varying degrees of success. Sandalwood

oil has been used to relieve symptoms in tubercular infections.

According to Wear²¹ cystoscopy and catheterization becomes necessary only to produce more adequate drainage, and is indicated after conservative treatment of four to eight days if there are definite indications of remaining infection. He also states that he had never observed an infection of the renal pelvis of bacillary origin secondary to ureteral catheterization when the mucus membrane was normal. There is little danger to instrumentation unless the mucosa is subjected to trauma sufficient to injure it.

Eberbach¹⁵ states that in acute renal infections of pregnancy associated with chills and fever, it has been his custom to pass large ureteral catheters to the kidneys and that he has never seen harmful results come from it, on the contrary there is a rapid fall in temperature, relief of pain and marked general improvement.

Eisendrath in 1926, advocated the use of indwelling catheters in the more severe cases. This method is gaining popularity, it is frequently essential in severe cases with high temperatures or in the hydroureter or pregnancy cases. He has left them in place from two to fourteen days without damage to the ureter. The kidney pelvis can be drained, lavaged and antiseptics instilled. Catheters have been left in the ureters as long as 24 days.

The value of cystoscopic and pyelographic aid is in the diagnosis and treatment of pyelitis in children and is equally as important in children as adults.

Campbell and Lyttle reported recently a large series of cases studied at Bellvue Hospital. These men cystoscope from six to ten babies each week. They have found it possible to cystoscope a male patient ten weeks old. They have found that some congenital anomaly is relatively common and that 50 per cent of such anomalies were strictures of the ureter. One thing of great importance that every doctor should guard against and that is the treatment until the patient is symptom free and then drop the case. Before treatment is discontinued, the urine

should be negative repeatedly.

It is folly to expect potassium citrate or urotropin to cure pyelitis secondary to some anomaly producing obstruction. Many of these cases are relieved by dilatation and pelvic lavage.

Thus the treatment of pyelitis implies and understanding of the modes of infection, the types of infections, the limitations of medical treatment and the necessity of frequent co-operation with a urologist.

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Head Injuries

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The management of head injuries has always been a perplexing problem, as the gravity of these cases does not depend upon the extent of the skull fracture, if present, but entirely upon the damage to the brain or its circulation. A great deal of advice on the care of head injuries has been offered but, as yet, the treatment has not been adequate enough to completely put the attending physician's mind at ease. The decision to operate

these cases is a serious one and fortunately the prevailing opinion has leaned more to conservative treatment in recent years, although Abernathy¹ urged caution over a century ago.

The past two decades have produced more efficient means of combating the high mortality of head injuries, than any previous periods in the history of medicine, however Harvey Cushing² stimulated interest and subsequent research twenty-eight years ago, by his observations on the effect of trauma to the cranial circulation. Under Cushing's² influence Weed, McKibbin,¹⁰ later Foley and Putnam⁸ brought forth the effect of hypertonic solution on the circulation of cerebrospinal fluid. Temple Fay⁵ performed ingenious experiments to demonstrate the effects of magnesium sulphate on cerebrospinal circulation by placing the drug in an isolated loop of intestine. Both series of investigations conclusively established the dehydrating effects of hypertonic fluids, whether given by mouth, rectum or intravenously. Peet's⁹ work with hypertonic glucose was of extreme value because it lessened the toxic effects produced by saline solution, and was an additional aid in combating acidosis.

Following these valuable experiments, the neurologists and surgeons became more cautious in advising immediate decompression for cases of increased intracranial pressure and gradually the terrific mortality has been decreased. In spite of the lowered death rate there is still a tendency toward unwarranted surgery in head injuries, and an attempt will be made to present a plan of treatment which has been effective in reducing mortality still further.

CLASSIFICATION

It is futile to add further to Dowman's³ comprehensive and complete classification of head injuries which is as follows:

(a) Massive brain injury, with evidence of rapid exhaustion of the medullary centers and death within one to several hours after admission.

(b) Definite evidence of middle meningeal hemorrhage.

(c) Simple or compound depressed

fracture, with localized brain contusion, with or without indriven bone fragments.

(d) Classic manifestations of rapidly increasing intracranial pressure which are well within the period of medullary compensation.

(e) Definite evidence of brain injury exhibiting no classic findings of acutely increasing intracranial pressure, yet of the type that experience has shown is liable to develop gradually increased intracranial pressure due to fluid accumulation.

(f) So called "concussion" with no evidence of gross brain damage.

(g) Depressed fracture of a mild degree, giving rise to no symptoms whatever.

(h) Scalp lacerations, without damage to underlying structures.

a, b, c, and h can usually be readily determined a short time after admission to the hospital.

However, the general condition of the patient must be considered before any drastic means of diagnosis or treatment are employed. Many a patient who has suffered a head injury is severely shocked and supportive treatment must be given immediately. Following an alteration in the circulation of the brain, however slight, there is a tendency to a rapidly increased pressure and severe brain damage from this pressure occurs within comparatively few hours after the accident. To prevent this irreparable damage a dehydration regime should be started before any other plan of therapy or diagnosis is begun. This can best be instituted by giving 40-60 c.c. of 50 per cent glucose intravenously and then, unless there is severe hemorrhage from scalp laceration, the patient should be put to bed, ice bags applied to the head and the body kept warm. Atropine gr. 1/150 has proved to be the most satisfactory stimulant, if indicated. The pulse, temperature, respiration and blood pressure should be taken every fifteen minutes and when the signs of acute shock have subsided, careful ophthalmologic, neurologic and *x*-ray examinations can be made.

If there has been a fracture which caused bleeding or leakage of cerebro-

spinal fluid from the nose or ears the attending physician must avoid such meddlesome methods as syringing the nasal or aural cavities, because such practices are almost certain to carry infection into the cranial cavity. The custom of inserting adrenalin packs into the nares, as a means of stopping hemorrhage from head injuries, cannot be too strongly condemned because it is the forerunner of either meningitis or brain abscess. Cold compresses externally applied and general supportive methods are usually sufficient to quiet the patient enough so that hemorrhage is not profuse. If the individual becomes very restless it may be necessary to administer a sedative, preferably bromide or codeine, but never morphine as it is a respiratory depressant.

If a patient is unconscious, the depth of the coma and extent of paralysis, if present, can be determined by pressure in the supraorbital notch. A reflex contraction of the face and extremities follows this pressure and an attempt is made to push the examiner's fingers away. Even in coma the patient will take the paralyzed hand with the unaffected limb in an effort to remove this painful stimulus.

Spinal puncture and drainage, if the fluid is under increased pressure or contains blood, affords a means of determining, to some extent, the degree of trauma and a method for temporary decompression. The pressure should be taken with a water or mercury manometer and the readings carefully recorded. The attending physician must base his conclusion for treatment on the pulse, respiration, blood pressure and spinal fluid findings.

TREATMENT

Massive brain injury is hopeless and little more than palliative methods can be employed. Drastic surgery is definitely contraindicated because it is of no avail.

Cases of middle meningeal hemorrhage can usually be recognized within a short time after admission and are evidenced by a contra-lateral hemiparesis or hemiplegia, hyperactive tendon reflexes and positive Babinski or Hoffman

signs on the affected side. These patients warrant immediate surgery if the general condition is suitable. However, localizing signs and medullary compression may occur simultaneously, and it is futile to operate unless the effects of the rapidly increased pressure can be reduced by dehydration. The choice of approach must be determined largely by the extent of injury and not infrequently it is necessary to turn a large bone flap rather than a simple trephine and decompression. Usually the operator finds a large extradural clot which on removal leaves an adequate exposure of the torn artery. Occasionally a linear fracture through the foramen spinosum will necessitate plugging of the foramen with bone wax. An experienced neurosurgeon seldom has difficulty in producing hemostasis but Dowman⁴ advises ligation of the external carotid artery if the surgeon is not familiar with intracranial technique. The dura should be incised to ascertain the presence of subdural or subarachnoid clot, which, if seen, can be removed by gently washing the brain with physiological saline at body temperature. A rubber drain should be left in the wound for twenty-four hours.

Patients having simple or compound depressed fracture with localized brain contusion, are considered emergency cases but again caution must be stressed lest there be a tendency to hurriedly advise operation. Frequently a hematoma beneath the scalp will appear, on palpation, to be a depressed fracture and careful *x-ray* studies in conjunction with neurological evidence must determine the urgency of operation.

The classic manifestations of rapidly increasing intracranial pressure are drowsiness, a lucid interval followed by coma, convulsions and hyperactive reflexes. The pulse may be rapid, respiration shallow and the blood pressure elevated. Signs of medullary compression are a rise in blood pressure, a slow pulse and either a sudden rise or fall of body temperature. Temple Fay^{6,7} aptly expresses the crux of this situation as follows: "The old edict, when the pulse pressure crosses the pulse, *decompress*, is now supplanted by *dehydrate*." These

patients usually respond quite well to intravenous injections of hypertonic saline or glucose. The latter is preferable because it has the advantage of combating shock and acidosis. The urine should be carefully examined before giving large amounts of glucose intravenously. If not markedly contraindicated, the glucose may be repeated every four hours if necessary and when volume is desired it may be followed by 100 c.c. of physiological saline. Previously when progressive signs of intracranial pressure were present, in the absence of focal symptoms, it was the custom to perform a subtemporal decompression. However, a rigid dehydration regime has supplanted many operative indications with a subsequent decreased mortality.

Winkleman's^{11,12} observations have shown the damaged absorptive mechanism due to a plugging of the Pacchionian bodies and subarachnoid villi with blood, and an increased cerebrospinal fluid pressure. Pressure in a closed cavity produces destruction of the soft compressible brain substance, and this can be avoided only by prevention of a large production of cerebrospinal fluid, rather than attempting to compress an edematous brain. The causes of "concussion" without evidence of gross damage can be effectively handled by dehydration.

The scalp lacerations, without damage to the underlying structures, should be thoroughly cleansed with a strong germicide, foreign bodies removed, if present, and the lacerations sutured with silk or horsehair. Delayed healing and subsequent distress to the patient can be avoided by inserting a rubber drain for the first twenty-four hours.

Any patient who has had a severe enough injury to be dazed or momentarily unconscious, should have a careful *x-ray*, fundus and neurological examination before a definite diagnosis is made. Many cases of head injury which appear inconsequential when first seen, later become unconscious and not infrequently die a few hours after dismissal as a minor injury.

Patients having a fractured skull, with or without cerebral trauma, should be

kept in bed for at least ten days and then activities restricted for four weeks. These cases should be observed from time to time because it is not uncommon for a patient, who shows nothing on first examination, to develop signs of increased pressure such as headache, vomiting, convulsions, choked discs and motor or sensory loss. On exploration, a large subdural hematoma is found which is the result of slow venous oozing.

During the period of convalescence the fluid intake should be restricted because there has been a sudden change of the water balance and unless a low intracranial pressure is maintained cortical atrophy will ensue; thus the fluid intake must be restricted to twenty ounces or less a day for at least three weeks. It is necessary to resort to spinal drainage as long as blood is present in the cerebrospinal fluid otherwise absorption is hindered and if brain damage results, the patient's chances of resuming his economic position are seriously endangered.

POST TRAUMATIC COMPLICATIONS

Headache, epilepsy and mental deterioration are the most common sequelae of severe head injuries. Until encephalography was introduced it was seldom possible to determine the extent of brain damage following trauma. Unless there is a definite evidence of indriven bone fragments surgery has little to offer this unfortunate group of individuals. Dehydration over a long period of time and re-education are the sole means of aid in these cases and it is of the utmost importance that they be given every opportunity to restore themselves to their former place in society.

Hysteria, malingering and those worthy of consideration can be readily differentiated by careful neurological examinations aided by encephalograms when the issue is in doubt.

SUMMARY

Head injuries are serious cases requiring deliberate judgment and diagnosis before deciding upon operation. Care in selecting cases for surgery and a constant effort at dehydration have been the chief factors in lowering mortality. Encephalography, in competent hands, has

been a means of fairly determining the justice of compensation and the subsequent course of treatment in post traumatic complications.

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Cesarean Section—Increase In Indications —Other Methods In Delivery

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Read before the Douglas County Medical Society, May 1, 1930.

I have become much interested for the past year or two in the use, advantage and consequent increase of cesarean section in selected cases. Polak, DeLee, and other prominent obstetricians comment on the evident lessening of the pelvic diameters of women. Even in Sweden, where for centuries childbirth was the easiest of any country in the civilized world, they are finding this true. I practiced for twelve years in a community of Swedish people, the first settlers being direct from that country. These older women were still having a birth each year, with very few complications, and easy times. Their daughters, however, can tell a different story, and now the grandchildren of that community find childbirth even more difficult.

Here, I am sure the same thing is the case, even more so. This brings us to the subject of prenatal care, and a careful measurement of the pelvis in primiparae, particularly. If you find the external

sacro pubic diameter to be 7 inches or less, you can look for trouble often, and be prepared to act, and action in my opinion in many cases, should consist in a well done cesarean. Some place, some-time ago, I saw the statement that county seat surgeons should never attempt this operation.

During the last two years I have seen at least twelve of these operations done here, and the mother and babe in all cases are living and doing well. So, I feel that in this community, at least, we can have this done with assurance of safety, and live babies as well as mothers.

Another pleasing thing noticed is the lack of birth injuries to the child, and consequently the immediate increase in weight and development in the baby. This was evidenced only last week, in the case of one of our local men, the baby gaining one-fourth pound in the first week. By the way, this was Dr. Chambers' second cesarean in the same woman, with live babies and good recovery of the mother, while at her first confinement, some ten years ago, three doctors tired themselves out with instruments, finally doing a podalic version, and besides getting a dead baby, tearing the woman clear to and through the rectum.

Cesareans are necessary for all times on this woman, on account of contracted pelvis, but the idea of once a cesarean always one, has not proved out in my experience. Some six years ago I found a young woman in the country with eclampsia. Brought her to the hospital, had Dr. M. T. Sudler operate, saved the baby and woman. Since then, her pelvis being normal for childbirth, and with prenatal care, careful checking up of urine, etc., she has been confined normally twice, the only thing done being to apply forceps as soon as the head was engaged and uterus dilated.

Another indication met in the past year was in a primipara, between thirty-five and forty, with very large fibroids, but very anxious to have a child. Two weeks before time expected she was operated, a live baby delivered by cesarean, then hysterectomy done at this

time for fibroids. Result, a well woman, a fine child, which developed rapidly from day of operation, and a happy family.

Still another admonition has been never to do a cesarean after the membranes have ruptured, and repeated vaginal examinations made. This, of course, means nothing, but rectal examinations, and practically none of these are made outside hospitals.

Three months ago a woman was brought to the hospital by an out-of-town physician, with placenta previa, with the right hand and forearm clear outside vulva, where it had been pulled by another doctor, in the effort to do a version in the country. If ever you could look for infection you would expect it here. However, cesarean section was decided on, a surgeon called into the case, a rapid delivery done, with cross cut incision from side to side through the peritoneum over the uterus. Have seen this done before by Dr. Chambers, and believe it aids in preventing spread of any infection. Anyway both mother and child made a fine, uneventful recovery, and left the hospital in two weeks.

A young girl was picked up on the street, with eclampsia, illegitimately pregnant, vaginal examination done by another doctor, then turned over to the county. Cesarean done, with good recovery and a live baby.

September 1, 1929, after fighting a losing battle in a primipara, unable to get less than four plus albumin in urine, seeing her going into pre-eclamptic state, very edematous and in grave danger, although the pregnancy was only seven months advanced, we did a cesarean. Result was recovery of mother and a three pound, four ounce child, which went through a stormy two or three months, but which now is a well developed, healthy child.

These cases are cited only to show the end results of operation. Certainly, prior to that, in my experience at least, and with the forcible emptying of the uterus by hand or any other method except cesarean, we would undoubtedly have lost at least a part of the infants and perhaps some of the mothers. So, though

I hope and feel that you will not consider me an advocate of universal cesarean section, I also hope we can all see the sense and advisability of same for both mother and child in many cases well selected.

I feel that I should not close without adding a few remarks in regard to other means of delivery, for instance high forceps, which I consider more dangerous, both to mother and child than even cesarean section. I have never owned a pair of high forceps, and I hope never will. If the head will not come down far enough for me to apply my good old long blade Simpson forceps, which is the only pair of forceps I have ever owned, and knowing there is plenty of room in the pelvic outlet, podalic version beats high forceps for delivery, both for the mother's and baby's sake. And I always want the forceps ready to apply to the after coming head. We do need this procedure at times.

This paper is not intended as a plea to do anything to a woman who does not need it done. I might go on along the lines of pituitrin and many other procedures, but my object here is simply to urge the sensible use of what has been until recently considered a last resort, for the purpose of saving life, and prolonging it also, in carefully selected cases, which would not be possible and has not been done in the past.

We are fortunate in having men here who are, and have proved themselves, capable of doing this operation. Under the same conditions I am certain it can be done oftener than in the past, with good results.

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Insulin In Large Doses

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So much has been said about diabetic coma by Joslin and his co-workers, as well as by many other able diabetic workers, that I will not discuss the usual treatment or attempt to review the wealth of literature on the subject.

I do, however, wish to report an interesting case of coma in more or less detail to bring out two or three points in

the treatment of this most needless accident.

The patient, an American school girl, was first seen by me, September 14, 1928. At that time she was fifteen years of age. She had an annoying pruritus about the vagina and rectum. Her periods had been irregular for the past nine months. She had lost fifteen pounds in six weeks. She complained of marked polyphagia, polydipsia, and polyuria. She was put immediately into the hospital where her tolerance proved her to be a moderately severe diabetic.

She was advised, on account of her youth, to start insulin at once so that she might save her tolerance and also carry on her school work more successfully. She flatly refused but said she would follow her diet. Her blood sugar stayed around 300 mg., so she was told she must take insulin or seek other medical advice. She took insulin for a few months with good success and felt well except she did not like to be stuck so often.

In June, 1929, she went to Kirksville, Mo., where she was treated for three months by an osteopath. During this period she took no insulin. She felt fairly well except for the pruritus, which returned soon after insulin was discontinued. She does not know what her blood sugar was during her stay at Kirksville. She returned home for school in September, 1929. She then consulted one of our local quacks who outlined some food for her to take. The amounts were not weighed but she took a diet comparatively low in carbohydrate. Her pruritus was better under this treatment than it had been with osteopathy. She attended school during the winter, doing fairly good work. In the early morning on March 27, 1930, she took sick with what her family thought was measles. She was very uncomfortable all day and at 8 p. m. she became unconscious. I was called by her physician at 11 o'clock. I advised him to give her 40 units of insulin at once and to bring her to the hospital. An hour later she was in Mt. Carmel Hospital, where her blood sugar was found to be 400 mg. per 100 cc. of blood. Her CO₂ was 5 volume per cent.

Forty more units of insulin were given on entrance. She was in profound coma. Her eyeballs were soft. Her pupils were regular and equal. They reacted sluggishly to light. Some cracks were about her mouth. The teeth were good, the tonsils out, and the skin dry, almost parched. There was labored breathing but not of the Kussmaul type. She was extremely restless, moving constantly about the bed. There was a marked pruritus about the perineum. The rest of the examination was essentially negative. Her temperature was 98°, her pulse 120, and her respiration 24.

She was given an enema on entrance. The stomach was lavaged with warm soda water. She was given 20 units of insulin, subcutaneously, every thirty minutes until five o'clock that evening. This made a total of 660 units of insulin that she had received in sixteen hours. She received 1700 cc. of 3 per cent glucose, subpectorally. She had 100 grams of glucose and 46 grains of sodium bicarbonate in 1040 cc. of water, intravenously. Caffein sodium benzoate in 7½ grain doses had been given every three hours. Some proctoclysis in the form of 5 per cent glucose had been given but only about 500 cc. retained.

Her blood sugar at this time was again 400 mg. and the CO₂ was estimated at 4 volume per cent. The CO₂ was so low in both of these examinations that the regular table for the Van Slyke did not have the reading and it had to be estimated. I am, however, definitely sure that the tests were absolutely correct because our technicians are running tests every day and their work is accurate. The carbon dioxids were not running low at that time, as they may do in the course of months unless great care is observed. I mention this, knowing that I will be questioned about the accuracy of the findings.

We gave her two more 20 unit doses of insulin and a 30 unit dose, subcutaneously, and then 40 unit doses with 23 grains of sodium bicarbonate, intravenously, every ninety minutes for four doses. Three minims of adrenalin were given every two hours. We had been catheterizing the bladder empty every two hours

while she was getting insulin subcutaneously and before each intravenous dose of insulin. More than 2 per cent sugar had been present at all times. At 1:30 a. m. on the 29th, the urine was sugar free. At 3 a. m. sugar again appeared in the urine, so 30 units of insulin with 23 grains of sodium bicarbonate were given intravenously. At 5:30 a. m. the blood sugar was 118 mg. and the CO₂ was 16.4 volume per cent.

It had been 28.5 hours since I had first been called. She had been given 730 units of insulin subcutaneously and 190 units intravenously, a total of 920 units.

In the meantime she had received 3000 cc. of 3 per cent glucose, subpectorally, 150 grams of glucose, 184 grains of sodium bicarbonate in 1660 cc. of water, intravenously.

At this time the patient began to answer questions with some degree of accuracy. She was taking water and orange juice by mouth. By the next morning her CO₂ was 31.6 volume per cent while her blood sugar had reached the abnormally low figure of 28.9 mg. per 100 cc. of blood. The urine was now sugar free and remained sugar free. Neither was there albumin or casts in the urine.

By this time her measles had broken out in good shape. She had a very annoying cough. Her temperature, however, did not go over 101 degrees and her pulse 120. She left the hospital April 4, on the seventh hospital day, with a blood sugar of 110 mg. and her CO₂ was 52.4 volume per cent. Her diet on this date was C. 86, P. 53, F. 83.5. She was getting 55 units of insulin, daily. She took the insulin at 7 a. m., 2 p. m., 8 p. m. and 1 a. m. After April 10 the night dose of insulin was discontinued while the diet remained the same.

On May 16, 1930, her blood sugar was 62 mg. and her blood urea nitrogen was 13 mg. per 100 cc. of blood. The urine had been sugar free since the second hospital day. She had tested it before each dose of insulin. A twenty-four hour specimen of urine on May 16 had a specific gravity of 1.016 and contained no albumin or casts.

I mention the blood urea nitrogen, the albumin and casts because after the con-

stant use of insulin on my patients since the early part of 1923, I have never found one that I thought had any kidney injury due to the use of insulin. This patient, having had this tremendously large amount in the short period of time should certainly be a test case.

In the American Journal of Medical Sciences for May, 1930, Dr. Leona Meyer Bayer has reported six fatal cases of diabetic acidosis, Case VI of which received 1145 units of insulin during a six and one-half day period. She suggests the possibility of a relationship between a nephrosis, which was found in her patient at autopsy, and "the huge amount of insulin received."

She also states that some degree of nephropathy accompanies almost every severe diabetic acidosis. Albumin and casts were found in all of her cases.

In this case, as well as in nearly all of my more severe diabetic coma cases, albumin and casts were both found on entrance but were constantly absent after the first thirty-six hours.

I am reasonably sure that the large amount of insulin was not responsible for the nephrosis in Dr. Bayer's case. The largest amount of insulin received by her patient in any twenty-four period was 290 units. On the day following the second largest amount, 275 units, the blood sugar was 460 mg. She does not give the CO₂ determination, hence we can not be sure that her patient was in acidosis. The blood urea nitrogen arose from 28.9 mg. on entrance to 72 mg. on date of expiration.

I have given 400 units of insulin in a twenty-four hour period to one other coma patient whose CO₂ was 4.5 volume per cent on entrance. The same patient came in two years later with a CO₂ of 9 volume per cent to receive 460 units in twenty-four hours. The urine contained a large amount of albumin and casts on both occasions but within thirty-six hours each time the urine was normal.

In nephrosis one of the outstanding findings is the albumin, so while I do not have the necropsy findings to prove that my patient did not have nephrosis, yet I feel certain that had there been much degeneration of the tubules, albumin would

have been found in at least small amounts.

I mention this only as an argument in favor of the use of large amounts of insulin when the CO₂ seems fixed and will not respond to smaller doses.

It is my opinion that 20 to 40 units should be the maximum of a single dose of insulin but should be repeated every thirty, sixty, or ninety minutes, depending on the severity of the case, namely, the amount of sugar in the urine, the height of the blood sugar, and the carbon dioxide combining power of the blood plasma.

It is possible that Dr. Bayer did not intend to leave the impression that large doses of insulin might always cause nephrosis. However, since that was my interpretation of it I feel justified in offering this case which received much more insulin in a given period than her patient did and still had no apparent damage to the tubules of the kidney.

SUMMARY

1. A case of diabetic coma is presented in which the CO₂ remained at 5 volume per cent or below for a period of sixteen hours.

2. During the same sixteen hours 660 units of insulin were given subcutaneously in 20 unit doses at thirty minutes intervals.

3. During this interval she received 1700 cc. of 3 per cent glucose, subpectorally, 100 grams of glucose and 46 grains of sodium bicarbonate in 1040 cc. of water, intravenously and 500 cc. of 5 per cent glucose by proctoelysis.

4. After only 190 units of insulin, intravenously, to which 115 grains of sodium bicarbonate were added, the CO₂ was raised from 4 volume per cent to 16.4 volume per cent in ten and one-half hours.

5. A few small doses of adrenalin were given during the time she was taking the intravenous insulin.

6. Argument is offered with clinical observation as proof against the possibility of insulin alone causing nephrosis in the diabetic, even though extremely large doses have been used.

CONCLUSIONS

1. This case should teach us that no

set rule can be followed in treating diabetic coma. Each case must be handled on its own merits.

2. Every severe case must be watched constantly, day and night, by the physician himself if the life is to be saved.

3. The value of insulin given intravenously in this particular instance seems to be proven.

4. The use of the frequent doses of sodium bicarbonate, intravenously, and the small doses of adrenalin, subcutaneously, are interesting facts although they may have had little to do with the improvement noted.

5. It is the opinion of the author that huge doses of insulin alone do not cause nephrosis in the diabetic who needs the amount given.

—R—

TUBERCULOSIS ABSTRACTS

That children may have a latent form of tuberculosis is a novel and disturbing thought to most parents and teachers. The growing appreciation of the significance of childhood type of tuberculosis is creating a demand that something be done to prevent the latent form of the disease from progressing. Some are urging the development of preventoria. But there is considerable confusion in the public mind, as well as among the profession, as to what a preventorium is and what purpose it is supposed to serve. The following is a resume of a recent article attempting to clarify the subject.

WHAT IS A PREVENTORIUM?

The term "preventorium" was first used to designate a convalescent home for adults (Brehmer's Rest at Ste. Agathe des Mouts in Canada) on the ground that any depleting illness may predispose to tuberculosis and that after-care tended to prevent tuberculosis.

In 1909, New York City, through the interest of Dr. Alfred Hess, established at Farmingdale, N. J., an institution to take care of "pre-tuberculous" children. It was called a preventorium. Unlike the Canadian institution, which was designed for convalescent adults, that at Farmingdale was exclusively for children presumably threatened with tuberculosis. Similar institutions sprang up, though practices and procedures were not uniform.

Ideas as to what the preventorium was supposed to be and do were vague. However, the dominating purpose of all was a desire to provide care for the sick child. The term, "pre-tuberculous," was applied rather loosely to the child with actual tuberculosis, the child of a tuberculous household, and the child below par in health, as expressed usually in malnutrition, but all were regarded as sick children.

Quite another development in these early days was the establishment of fresh air schools and open window rooms. Their purpose was to increase the resistance of certain selected persons, who were not sick but who were



Open Air Classes, Sunshine Hills, Springfield Lake (Ohio) Sanatorium

presumed to be potential victims of tuberculosis. The emphasis was on health building rather than on disease prevention.

As we learned to differentiate between infection, mass infection, and actual disease, and as it became evident that the beneficial results of both preventoria and fresh air schools were to be attributed to rest, good nutrition, and a well-regulated regimen, the procedures and objectives of both types of institutions tended to merge. For that reason, it is today impossible to answer statistically how many preventoria and fresh air schools there are in the United States.

Three years ago, the Committee on Preventoria of the National Tuberculosis Association formulated this definition: "A preventorium is a twenty-four hour, twelve months institution for the care and observation of children substandard in health." The general purpose of this institution was assumed to be giving preventive care to children threatened with tuberculosis, heart disease, or other potential disability. Exact standards of eligibility were not defined but the Committee indicated the groups from which selections for the preventorium might be made, as follows:

1. Children exposed to tuberculosis at home, or in whose immediate family there has been a recent death from tuberculosis.

2. Children who have had tuberculosis, whose lesions are not active, and who appear to be in need of further care and observation.

3. Children suffering from malnutrition.

4. Children who tire easily and who are unable to carry on their class work.

5. Children frequently absent because of colds, bronchitis, etc.

6. Children suffering from rheumatic heart disease (of certain classifications).

It is now recognized that many children who need protective care do not require the exacting regimen furnished by a twenty-four hour, highly specialized preventorium. Some preventoria assume complete charge of their children, keeping them for twenty-four hours of the day the year round until they have ap-

parently developed good resistance, while others permit their charges to return home over the week end. The predominating purpose of these institutions is to give medical care, and secondly to provide school instruction. Another type of preventorium is essentially a school which cares for the children only during school hours and which furnishes supplementary meals, rest periods during the day, etc., while in the meantime conditions in the children's homes are scrutinized and supervised by a special follow-up worker.

While preventoria, fresh air schools, open window classrooms, nutrition classes, and health camps vary widely in their procedures, the main purpose of all seems to be to give handicapped children an extra lift so as to prevent the threatened disaster of pulmonary tuberculosis in later years. Opinion in the main seems to be that children with the childhood type of tuberculosis (unless progressive) should not be regarded as sick children but rather as being threatened with disease. Certainly, children with the adult type of pulmonary tuberculosis should not be in the preventorium, not only because they are definitely ill, but also because they are potential spreaders of the disease.

There would be less confusion of thought about preventoria were discussions concerned not so much with building construction, physical equipment, staff, etc., but with the therapeutic requirements of children who need protective care. Indications for treatment of such children are:

1. Contact with the tuberculous adult, who presumably has infected the child, must be broken. This is done by removing the tuberculous adult to a sanatorium, by taking the child out of the home, or by teaching every member of the household the principles underlying the transmission of tuberculosis.

2. The child must be relieved of all possible strain; i.e., strenuous exercise and burdensome school work. Rest is the cornerstone on which preventorium care is based.

3. The child's health must be built up; physical defects must be corrected and

the benefits of good food, sunshine, and fresh air must be made available.

4. The psychology of the child must be adjusted so that he will not think of himself as being inferior to others gifted with greater reserve of physique, and yet restrain over-ambitious impulses.

These indications for treatment can, under ordinary circumstances, be met without the aid of a definite institution, but there are, of course, numerous "problem families," as the social worker calls them, where it is impossible to meet the requirements enumerated above. These problem families are not limited to the poor or ignorant, but include many families of intelligence and of means who, for any reason, are unable to afford the child the necessary protection.

While no formula can be given for the solution of the problem, an understanding of the general principles should enable any community to determine the type of preventorium care which best suits its needs. The various attempts now being made to cope with the problem should be regarded as experiments. The test of time will reveal which type of preventorium is the most efficient. Fortunately, a number of preventorium institutions are carefully following their pupils into adult life in order to learn what their subsequent experiences may be. When enough of such data has been collected, we may be able to determine more precisely what the ideal form of organized care may be.—*What is a Preventorium?* H. E. Kleinschmidt, *Jour. of Pub. Health*, July, 1930.

—R—

Use of Modified Drinker Respirator in Treatment of Asphyxia Neonatorum

Five severely asphyxiated new-born infants have been treated successfully by Douglas P. Murphy, Philadelphia, and J. A. Coyne, Boston (*J.A.M.A.*, Aug. 2, 1930), in the mechanical respirator. In every case, other methods of resuscitation had been tried without success. Each infant finally breathed normally after a more or less prolonged period of mechanically induced artificial respiration, although none of these infants were breathing when placed in the respirator. The

time that elapsed between the inception of artificial respiration given by means of the mechanical respirator and the first independent breath taken by the infant was noted in four cases. In three of these, the first spontaneous inspiratory effort was not observed until more than five minutes had passed, whereas in the fourth case it did not take place until one hour and four minutes had elapsed. Since the initiation of respiration was not coincidental with the first artificially produced chest excursions, it would seem that the mechanical respirator does not initiate but probably stimulates respiration. Of these five infants, two survived and were discharged at the end of fourteen days. The three remaining infants died. It is believed that none of these five infants would have survived asphyxia had they not been treated in the mechanical respirator.

—R—

The Hosts of Tularemia

Tularemia is principally a disease of wild life. In conserving wild life are we in danger of enlarging the reservoir of infection from which human cases are derived? The suggestion was made recently by Dr. R. G. Green of the University of Minnesota. He points out that with a single exception all recorded human cases appear to have been derived from infected animals or intermediate insect hosts. Infection is not passed ordinarily from man to man even when special precautions are not taken to avoid it. Dr. Green suggests that the frequency of human infection is probably a cyclic phenomenon depending on exacerbations of the disease in the animal reservoir. Until some means of combating the disease at this point is discovered, as for example the destruction of the deer fly and the ticks that act as intermediate hosts, the conservation of wild life is liable to extend the incidence of the disease in man.—*J.A.M.A.*, Aug. 30, 1930.

—R—

"Do you think your father will object to my suit?"

"I don't see why he should; he wears one almost as bad."

THE JOURNAL

of the

Kansas Medical Society

W. E. McVEY, M. D. - - - Editor

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POLITICAL WISDOM

If the men who worked so long and so hard to get the medical practice act through the legislature in 1901 had realized that in passing it the legislators believed they were granting a concession of some kind to the medical profession of the State, they would no doubt have changed some of the provisions it contains. They would have provided for an examination fee of twenty-five dollars and an annual registration fee of five dollars, and they would have had a board of three members instead of seven and would have provided that each member of the board should receive ten dollars per diem and expenses while engaged in the duties required and authorized by the board. The fees would amount to about twelve thousand dollars which divided by three would give each member of the board a nice little addition to his professional income. But no one seemed to know about that. They all seemed to believe the State was setting up a standard of education for all who desired to practice the healing art, and they tried to make it cost the poor fellows who

were just out of school as little as possible. Under this political misconception the board has gone on for nearly thirty years examining applicants, every now and then increasing the requirements and broadening the scope of the examination, and paying their actual expenses out of their own pockets when the fees collected were inadequate.

There are wise men who never acquire political wisdom no matter how long or how hard they try. There must be a lot of them in our profession. Those who planned the duties and emoluments of some of the more recently created boards showed more political sense though they were far behind the medical profession in education and ordinary intelligence.

In the last number of the Journal some suggestions were made for an economic reconstruction of the laws which now provide for a number of needless and expensive boards, boards whose duties or functions, to more or less extent, duplicate or conflict with the functions of the Board of Health. The duties of all of these boards could be performed more economically and more efficiently under the direction of the Board of Health, in fact the fees now collected by these boards would enable the Board of Health to carry on the whole job without any appropriation from other State funds.

It has never been regarded as good political policy to destroy any geese that are laying nice golden eggs in the laps of party friends and adherents, and no doubt it would be readily explained to those who proposed to abolish these boards that they do not add to the tax burden of the people, since the laws provide that their expenses must be paid out of the funds they themselves create. In fact they are good and healthy geese that don't have to be fed by the tax payers.

Apparently that is true but in fact

these boards are appointed to act as agents or representatives of the State in the exercise of some of its police powers. The fees collected are the property of the State, are a part of the State's income for the judicious expenditure of which its officers are held accountable to the people. If the laws permit these funds to be dissipated by unnecessary and extravagant expenditures it would be good statesmanship if not good politics to require their revision.

It might under present conditions prove the height of political wisdom to make a real effort to economize in the State's expenditures. The boards here referred to are those only whose functions are more or less directly related to public health, but no doubt those who are familiar with other departments of the State's affairs could point out other needless and expensive boards and commissions whose duties could be more satisfactorily performed by one of the State departments at considerable less cost.

The present agitation for an income tax is not likely to find favor with the medical profession. Those who are fortunate enough to have to pay a federal income tax are not likely to care for any more of that sort of business and those who are exempt will prefer to wait until their incomes require them to make returns on the federal tax. At any rate it would be better politics and better business to eliminate unnecessary expenditures before seeking additional sources of possible revenue.

THE FUTURE IN MEDICINE

There are many prophets in the medical profession, at least there are many who in their mind's eyes see the future of the practice of medicine, and are willing to tell us what they see. We who read their prophecies are likely to be confused between the promises of a re-

habilitation of the general practitioner and a reestablishment of his former prestige on the one hand, and the predictions of further invasions by State, industrial and insurance medicine on the other.

Some men seem to make their prophecies on the theory that what ought to be will be, an optimistic but hazardous viewpoint in the consideration of the future of the practice of medicine. In fact too much that is of vital interest to the medical profession has been treated with good intentions and dismissed with the adoption of resolutions.

There are times when optimism may be regarded as a commendable virtue, but there are times when too much optimism may be interpreted as criminal negligence.

From its very beginning specialized practice has grown and spread without restriction. It has long since outgrown the field it was originally intended to occupy, for in the beginning ethical specialists, at least, confined their services to cases referred by general practitioners. It was the decadence of this ethical principle which has been responsible for the lost prestige of the general practitioner.

When half or two-thirds of the specialists take up general practice that principle may be restored, but under the existing proportions there are not enough general practitioners to refer enough cases to keep one-third of the specialists occupied.

The present day specialist is no longer dependent upon the general practitioner, most of his cases come directly to him. In fact there are about as many cases referred by specialists to general practitioners as are referred by general practitioners to specialists. Search as he may one will fail to find anything in this situation to justify a hope of the reestablishment of the former prestige of the

general practitioner, or if you please the family physician. It was his optimism, his confidence in the stability of his position and his neglect to maintain his original ethical relationship with the specialist, that led to his dethronement.

No one needs a prophet to point out to him what is happening to the practice of medicine, nor to tell him that the trend of what is happening now is toward such conditions as exist in Germany and England. There is no use to say that such conditions are not possible in this country, for while we are so consoling ourselves we are being docilely driven into the run-ways from which there is but one exit, complacent submission to the inevitable. Every evidence points to some form of state medicine or sickness insurance as the ultimate termination of the present tendencies. How otherwise can one interpret the strong sentiment manifested in support of the proposal to extend the government medical service to all who served in any capacity in the Great War, whether the disability or ailment was contracted in or on account of such service or not?

It would be just a little step from that to government medical service for all the people, and equally justifiable on the same grounds for practically every adult citizen contributed in some way to the support of the country and the maintenance of the army during that conflict.

The medical profession was apparently indifferent to the possible effects such action might have upon its future, at any rate it offered no general or concerted opposition.

It has been but a comparatively short time since railroad surgeons were employed by railroad companies to care for those injured in the line of duty, so as to minimize the damage claims to which they were liable. The subsequent evolu-

tion of such a medical department into a hospital association supported by assessments upon the employees, and by which not only the injuries sustained in line of duty but all their illnesses are cared for, seemed no occasion for uneasiness on the part of the medical profession. The establishment of various forms of sickness insurance by other large industries and the fact that many of the smaller industries have found agencies prepared to render similar service to their employed, was apparently recognized by the medical profession as an economic necessity. Lay organizations with philanthropic ambitions have readily received the support and cooperation of the medical profession in a great variety of special fields of medical practice. Even insurance associations have established sickness insurance departments with the cooperation and the official approval of the medical profession.

At the last annual meeting of the American Medical Association Dr. M. L. Harris, in his address, again recommended that component county societies should incorporate and establish medical centers owned, controlled and managed by the members of these societies, where all classes of persons who are unable to pay regular fees can be given the highest type of medical treatment at prices within their means. In this suggestion lies the only solution of the problem ever offered, but it seems to have made no impression upon these organizations.

There is still perhaps in the minds of the members of these organizations some memory of those fine ethical discriminations by which it was regarded as ethical for a doctor to engage his services to a railroad company, a coal mining company, or other industry, at a stated salary, whether or not that salary was paid out of the sum accruing to the company or industry from monthly assess-

ments upon its employees; but regarded as unethical for a doctor to engage his services direct to the employees for the amount such monthly assessments would make. In other words it is ethical for a member of our Society to accept employment, at a salary of \$200 or \$300 a month, with a corporation or a company employing a thousand men, to render whatever medical service those employees may require, the corporation or company collecting from its employees one or more dollars each per month for such service; but it is unethical for a member of our Society to make a contract directly with those one thousand employees to render whatever medical services they require in consideration of the payment of one dollar each per month.

BRINKLEY'S FINISH

On Monday, September 15, members of the Board of Medical Registration and Examination and others visited the Brinkley Hospital at Milford where they had been invited by Dr. Brinkley to witness a number of his operations. One can hardly imagine that he was sincere in extending this invitation but if he was he certainly underestimated the intelligence of the men invited. He had given, in the literature sent out to prospective patients, detailed descriptions of his operations, descriptions that would make a strong appeal to the suffering prostatic. The fact that such operations were impossible was a matter of no concern so long as his audience was composed of laymen. But little tricks with anatomical structures that are not there just can't be done under the critical eyes of such surgeons as Edgerton, Orr and Nesselrode.

The hearing was resumed on the sixteenth and those mentioned above testified that the glands were removed from

the goat by Mrs. Brinkley and the aseptic precautions were inadequate to prevent infection of the wound into which they were implanted. They were unanimous in saying that the operations performed were not the operations described in the literature sent out from the Brinkley Hospital. They were also unanimous in their conclusions that these operations could not possibly reduce an enlarged prostate and that they could not have any rejuvenating effect.

Numerous affidavits were introduced by both parties to the hearing and the Board went into executive session Tuesday evening to review the evidence and to reach its decision.

On the 17th the Board issues an order revoking Dr. Brinkley's license, the text of the order is as follows:

Before the board of medical registration and examination of the state of Kansas.

In the matter of the revocation of the certificate of Dr. John Richard Brinkley to practice medicine and surgery in the state of Kansas.

Dr. L. F. Barney, complainant, vs. Dr. John Richard Brinkley, respondent.

Order and judgment revoking certificate of Dr. John Richard Brinkley to practice medicine and surgery in the state of Kansas.

Now on this 17th day of September, 1930, at an adjourned meeting of the board of medical registration and examination of the state of Kansas, held in the Hotel Kansan in the city of Topeka, Shawnee County, Kansas, the above entitled proceeding came on for decision by said board; said proceeding having been instituted upon the written complaint of Dr. L. F. Barney, complainant, of Kansas City, Kansas, filed with the secretary of said board on April 28, 1930, charging Dr. John Richard Brinkley, respondent, of Milford, Kan., with being guilty of gross immorality and unprofessional conduct and requesting the revocation of the certificate of said Dr. John Richard Brinkley authorizing the

latter to practice medicine and surgery in the state of Kansas; evidence on behalf of complainant having been submitted to said board on July 15, 16, 17, 18 and 22, 1930, and evidence on behalf of respondent having been submitted to said board on July 18, 23, 24, 25, 28, 29, 30 and September 16, 1930, and evidence in rebuttal on behalf of complainant having been submitted to said board on the 16th day of September, 1930; complainant having appeared in person and by his attorneys, William A. Smith, attorney general; W. C. Ralston, assistant attorney general, and Donald A. Campbell, of Topeka, Kan., and respondent having appeared in person and by his attorneys, F. S. Jackson, James E. Smith and Schuyler W. Jackson, of Topeka, Kan.; and said proceeding having been taken under advisement by said board on the 16th day of September, 1930.

The following members of the board of medical registration and examination of the state of Kansas, constituting the entire membership of said board, were present during all the time of such hearing and are now present: Dr. J. E. Hassig, president; Dr. A. S. Ross, secretary; Dr. H. Z. Hissem, Dr. G. R. Dean, Dr. C. H. Ewing, Dr. M. C. Jenkins and Dr. O. S. Rich.

Thereupon, said board, being fully advised in the premises, finds:

1. That on the 15th day of June, 1916, respondent, Dr. John Richard Brinkley, was granted certificate No. 5845 by the board of medical registration and examination of the state of Kansas, permitting and authorizing him to practice medicine and surgery in said state.

2. That respondent, Dr. John Richard Brinkley, has been, and is, guilty of gross immorality as charged in said complaint.

3. That respondent, Dr. John Richard Brinkley, has been, and is, guilty of unprofessional conduct as charged in said complaint.

4. That the certificate of respondent, Dr. John Richard Brinkley, authorizing him to practice medicine and surgery in the state of Kansas, should be revoked.

It is therefore considered, ordered and adjudged by the board of medical regis-

tration and examination of the state of Kansas, that the certificate heretofore issued to respondent, Dr. John Richard Brinkley, authorizing him to practice medicine and surgery in the state of Kansas, be, and the same is hereby revoked.

(Signed)

J. F. HASSIG.

President Board of Medical Registration and Examination of the state of Kansas.

A. S. Ross, secretary board of medical registration and examination of the state of Kansas.

C. H. Ewing, G. R. Dean, O. S. Rich, M. C. Jenkins, H. Z. Hissem, board of medical registration and examination of the state of Kansas.

Attorney General Smith was reported to have declared that the Brinkley-Jones Hospital at Milford would be prevented from operating. Apparently this was no idle threat for he has applied for an injunction to close the hospital.

He also supplied the county attorney of Geary County with information against the man Osborn who has been practicing at the Brinkley-Jones Hospital for a number of years without having a license from the Board of Registration and Examination. The evidence was obtained from witnesses who testified in the Brinkley hearing and there were about fifty counts against him.

It is understood, however, that Osborn is no longer in the state and there is some question if requisition can be secured.

The Attorney General must be commended for his ultimate interest in the Brinkley affair and the expedition with which the hearing was conducted after he took an active part in it, as well as for his activity in seeing that violators of the medical practice act are prosecuted.

—————R—————

Little Girl (to her playmate)—“When I was born I was so s’prised I couldn’t speak for a whole year and a half!”—Tit-Bits, London.

CHIPS

Peshkin and Fineman report their results in the treatment of asthma in children with a ketogenic diet, *American Journal of Diseases of Children*, June. Fifteen children ranging in age from 3 to 15 years with asthma, who had proven resistant to all other methods of treatment were placed upon a high caloric diet with a ketogenic ratio of 3:1. At the end of the third week fourteen of the children showed moderate or marked improvement or relief from asthma. This improvement was maintained for two months longer. After that and up to the tenth month 53 per cent of the patients were considered moderately to markedly improved or relieved from asthma. In hay-fever and in asthma due to pollen not much can be expected from the ketogenic diet although in the latter it may be used in connection with the pollen treatment with some advantage. The theory of the effect of the ketogenic diet in these cases is that it produces a physicochemical change in the cells and blood of the patient thereby inducing a partially or completely restored "allergic-balance."

The clinical histories of sixteen cases of malignant hypertension with the post mortem findings in twelve of them are reported by Murphy and Grill in the *Archives of Internal Medicine*, July. The chief clinical observations were headache, loss of weight, persistent excessive hypertension, functional failure of one or more essential organs, a progressively downward course and a rapid termination. The essential lesions were arteriosclerotic, with involvement of the smallest arteries and arterioles. In six cases necrotic lesions had developed in the walls of the afferent glomerular arterioles and in the loops of the corresponding glomeruli. Hypertrophy of the media of the arterioles of the skeletal muscles was usually found. In their opinion the morphologic difference between malignant hypertension and the benign form is only one of degree.

There are so many different opinions about blood pressure that the report of

Alvarez and Stanley, *Archives of Internal Medicine* for July, ought to be of considerable interest. They made a careful analysis of blood pressure measurements on 5,364 white prisoners and reached some very interesting conclusions: The level of pressure does not rise in most persons with old age. Many of those found to have hypertension during the fifth decade of life probably already had it at the end of the second. The level of blood pressure seems to be little affected by dissipation, the use of alcohol or drugs, or even by syphilis. It is affected largely by heredity. It is also affected by excitement, nervous strain, the days work, the amount of fat in the body and by the temperature of the air. It is a little increased by cool weather. The use of tobacco by young men appears to increase the pressure a very little but does not cause pathologic hypertension. The mean pressure in 5,364 white prisoners of all ages from 15 to 84 was 118.5 while in 857 between the ages of 40 and 84 the mean was 123.7.

In a paper by Saltzstein and Sandweiss, published in the July number of the *Archives of Surgery*, is this very significant statement: "In the arguments concerning the frequency with which chronic gastric ulcer develops into gastric carcinoma, the fact may be lost sight of that it is not the frequency with which this takes place, but the difficulty of distinguishing clinically gastric ulcer from early carcinoma which is important." From the histories of 287 fatal cases of cancer of the stomach, 24.7 per cent were preceded by long continued indigestion and 75.3 per cent started suddenly from previous good health. One-third of those having a history of prolonged indigestion had been diagnosed as gastric ulcer while ten per cent of those starting suddenly from good health had a history typical of ulcer.

Deaths from uremia following prostatectomy may be predicted or avoided by a preoperative estimate of the elimination of urea and its retention. Tests for the urea content of the blood are only required in advanced cases. In the June 7 number of the *Lancet* Sir J. Thomas-

Walker made a report of his analysis of 274 prostatectomies. In 194 of these the urea concentration was 2.0 per cent and over and there were no deaths. In 21 cases it was 1.8 per cent to 2 per cent and there was one death. In 34 cases it was 1.5 per cent to 1.8 per cent and there were three deaths. In 25 cases it was 1.0 per cent to 1.5 per cent or under and there were three deaths. His conclusion is that there is no risk of uremia following prostatectomy in cases where the urea concentration figure is 2.0 or over, but under this the danger increases.

The diagnosis of hypertension is easy, but the treatment is uncertain and patients usually want some opinion as to their future. Stieglitz, in the August number of *Archives of Internal Medicine*, suggests a test by which a fairly positive prognosis may be reached. After determining the arterial tension, a pearl containing 5 minims of amyl nitrite is broken and the patient requested to inhale deeply three or four times with the liquid held directly under the nose. The patient becomes flushed, perspires freely and complains of vertigo or faintness. At this time the tension is at its lowest and is again determined and checked several times. The patient is then relieved by administering some aromatic spirits of ammonia. The degree with which the diastolic pressure approaches the normal under the influence of amyl nitrite is the prognostic criterion. In cases of hypertension of the purely spastic type the diastolic pressure may fall below normal while in extensive fibrosis of the arterioles the fall may be relatively slight. The former are subject to therapeutic control while the latter are rarely benefited.

Aycock and others report the results of treatment of preparalytic poliomyelitis with convalescent serum, *Journal Infectious Diseases*. By comparing the fatality rate, the percentage without paralysis, the average amount of paralysis, in these cases with untreated cases in the same outbreak, they were able to determine some clinical evidences of the favorable results to be expected from this treatment.

SOCIETIES

CLAY COUNTY MEDICAL SOCIETY

The regular meeting of the Clay County Medical Society was held in the sun parlor of the Clay Center Municipal Hospital on the evening of the 17th.

The meeting was called to order by the president; Dr. E. N. Martin was acting secretary. A large number of members and four visitors were present. The visitors were Dr. Earle Brown of Topeka, Kan.; Dr. McCord of Topeka, Kan.; Dr. Lester of Clay Center, Kan., and Dr. Creviston of Oldsburg, Kan.

Following a short business session, Dr. Earle Brown gave a very interesting and instructive talk on "Public Health—Past, Present and Future." A long discussion of acute anterior poliomyelitis followed his talk.

Drs. Brown and McCord were elected to honorary membership in the society.

On motion the meeting adjourned at 10:30 p. m.

F. R. CROSON, M.D., Secy.

RUSH-NESS COUNTY MEDICAL SOCIETY

The Rush-Ness County Medical Society met September 10 with Dr. J. A. Blount at Burdett, Kansas. There were eleven doctors present. Dr. A. E. Reed of Larned, Kansas, was guest of the evening.

Dr. T. F. Brennan of Ness City was voted into membership in our Society, which is growing both in size and in quality of its programs. Two very unusual as well as interesting cases were presented by Dr. Blount and Dr. Reed showed us a rare surgical specimen of an abdominal pregnancy.

Dr. J. A. Blount gave a paper on "Some Factors in the Consideration of Diarrheas of Infancy" and a round table discussion followed.

Dr. Reed next showed us the specimen of abdominal pregnancy and gave us the history, operative findings and a general discussion of the condition which we find to be quite rare in medical literature.

Following the meeting a delicious luncheon was provided by Dr. Blount and served by members of the medical auxiliary.

The Society will be the guests of Dr. Attwood at LaCrosse for the November meeting.

F. D. SMITH, M.D., Secy.

—R—

DEATHS

G. E. Webber, Morland, aged 58, was instantly killed August 11, 1930, in an automobile accident. He graduated from Medico-Chirurgical College, Kansas City, Missouri, in 1904. He was a member of the society.

—R—

BOOKS

Medical Dictionary by Thomas Lathrop Steadman, M.D., Editor of the "Twentieth Century Practice of Medicine," etc. Eleventh revised edition. Published by William Wood and Company, New York. Price \$7.50.

Certainly there is nothing requiring such frequent revision as a dictionary. During the two years since the last edition of this one not only many new words have been introduced but there have been many changes in spelling and in the usage of words. The editor of this dictionary must be complimented on the thoroughness of this revision and on his persistent demands for certain reforms in spelling, however, one observes that he, too, has yielded to the compulsion of usage and has authorized the use of "acute abdomen," and other terms of that class.

Anatomy and Physiology, a text book for training schools and other educational institutions by Elizabeth R. Bundy, M.D., sixth edition revised and enlarged by S. Dana Weeder, M.D., Instructor in Anatomy, University of Pennsylvania, etc. Published by P. Blakiston's Son & Company, Philadelphia.

This is a very well arranged textbook giving a fairly serviceable description of the anatomy and physiology of the human. Sufficiently elaborate for the purpose for which it is intended, at any rate. The descriptions are accurate and the illustrations are adequate.

Nervous Indigestion by Walter C. Alvarez, M.D., Associate Professor of Medicine, University of Minnesota. Published by Paul B. Hoeber, Inc., New York. Price \$3.75.

This is a subject which too few of us know much about. This book will be of the utmost value to those who have the time and patience to study numerous

chronic invalids or semi-invalids in whom no lesions can be discovered. The author has made a study of this subject and describes the methods in which emotions can effect the digestive tract. His method of treatment as described has been evolved by experience and investigation.

Diseases of the Skin. A Text-book for Practitioners and Students. By George Clinton Andrews, A.B., M.D., Associate Professor of Dermatology, College of Physicians and Surgeons, Columbia University; Consulting Dermatologist and Syphilologist to Tarrytown Hospital; to St. John's Hospital, Yonkers; to Grassland's Hospital, and to the Broad Street Hospital, New York City. 1091 pages with 988 illustrations. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$12.00 net.

The author has given us a very elaborate and comprehensive work on dermatology. His effort to make it of the most practical value is evident. One of the necessary features of a textbook on this subject is numerous and good illustrations. Practically all of his illustrations are made from photographs so that what the text fails to make plain the illustrations do. The arrangement is to be commended. His classification is an eminently practical one. A considerable amount of space is given to roentgen ray therapy. The work as a whole deserves the highest praise.

The Surgical Clinics of North America. (Issued serially, one number every other month.) Volume 10. No. 4. (Southern Number—August 1930) 263 pages with 96 illustrations. Per clinic year. February 1930 to December 1930.) Paper, \$12.00; Cloth, \$16.00. Philadelphia and London. W. B. Saunders Co.

The first clinic reported is that of Dr. W. D. Haggard in which several operations are described. Miller shows some very interesting gynecologic cases. Brooks presents a case of aneurysm of the axillary artery. Royster shows an endo-aneurysmorrhaphy in a case of aneurysm of the brachial artery, and also shows a large aneurysm of the sciatic artery. Maes also presents a number of interesting surgical cases. Stewart McGuire discusses the treatment of duodenal ulcers. Peple presents a case of arteriovenous fistula. Campbell discusses fusion of tuberculous joints. Alton Ochsen discusses the use of iodized oil in the treatment of bronchiectasis. Mason's clinic includes hernia, intussusception

and gall stones. Abell's clinic includes cases of cardiospasm, cardiospasm with esophageal sacculation and diverticulum. Guerry's clinic includes reconstruction of the bile passages. Shock from removal of gauze drain following cholecystectomy. Hendon's clinic deals with the open treatment of fractures.

—R—

Inactive Duty Training School Rochester, Minnesota, Nov. 9-23, 1930

The second annual inactive duty training period for medical reserve officers will be held at Rochester, Minnesota, November 9-23 under the sponsorship of the Mayo Foundation; directed and personally supervised by instructors of the Medical Corps of the United States Army detailed to Rochester for the purpose. The curriculum embraces basic subjects essential to all medical officers.

The school offers opportunity for officers who have not received summer training to earn one hundred hours toward the required number for promotion at the expiration of their respective periods of appointment. The instruction covers a period of fourteen days of seven hours each. All medical reserve officers are eligible.

Any physician wishing to join the reserve corps should apply at once for a commission and when commissioned will be qualified to register for the course.

The course of instruction is arranged so as to allow visiting officers to attend clinics in the mornings and school of instruction during the afternoons and evenings.

Last year's course proved very profitable. Several officers of various branches of the regular army visited the school.

Medical reserve officers interested should write Colonel Louis B. Wilson, The Mayo Foundation, Rochester, Minnesota.

—R—

Evaluation of Therapeutic Results in Essential Hypertension

In a series of forty unselected hypertensive patients, seriously and enthusiastically treated by David Ayman, Boston (J.A.M.A., July 26, 1930), by the daily administration of a few drops of dilute hydrochloric acid, the symptoms were

definitely improved in thirty-three or 82 per cent. Ayman finds that the symptoms associated with uncomplicated essential hypertension may frequently be relieved by the suggestion inherent in any seriously and enthusiastically prescribed drug or method of therapy. This is the probable explanation of many successes reported in the past.

—R—

MEDICAL SCHOOL NOTES

Dr. J. Lloyd Collins, '28, recently visited at the Bell Memorial Hospital. Dr. Collins has accepted a second year Fellowship at the Cleveland Clinic in Cleveland, Ohio.

Dr. John A. Billingsley, '28, is taking Post-Graduate work in Ophthalmology at the Knapp Memorial Hospital, New York City, under Dr. Arnold Knapp.

Dr. Jesse Potekin, who recently interned at the Bell Memorial Hospital, is now associated with Dr. Ben Morris, '25, at Quinter, Kansas.

Dr. David Pankratz, formerly of the Anatomy Department of the University of Kansas School of Medicine, is now head of the Anatomy Department of the University of Tennessee School of Medicine, Memphis, Tennessee.

Dr. John Nanninga of Rush Medical School has recently accepted a position in the Department of Internal Medicine. Dr. Nanninga is doing research work.

Dr. and Mrs. F. C. Helwig recently returned from a trip abroad.

The following men are serving internships at the Bell Memorial Hospital this year: Doctors Paul Cameron, Harold Fairehild, Frank S. Hogue, Marwin Rumold, Richard R. Sheldon and Wilfred Curphy, all of the University of Kansas Medical School. Dr. L. Bernard McBain of the University of Wisconsin School of Medicine and Dr. E. Lee Shiflett of the University of Virginia are also interning at this hospital. Dr. Joseph Graham of the University of Virginia Medical School is the Resident in Surgery, and Dr. Kenneth Hoel of Wisconsin University Medical School is the Resident in Medicine.

Dr. Raymond Gard, '27, who is located at the Halsted Hospital, working with Dr. A. E. Hertzler, recently visited at the Bell Memorial Hospital.

The members of the Senior Class at the University of Kansas School of Medicine assisted Dr. Ralph I. Canuteson, who is the Head of the Student Health Service at Lawrence, in giving physical examinations of the Freshmen at the University this fall.

Dr. R. M. Isenberger did some work with Dr. A. E. Hertzler at the Halstead Hospital, Halstead, Kansas, this summer.

The following men have been added to the Dispensary Staff in various departments: Dr. A. M. Ziegler, Department of Surgery; Dr. Irwin Brown, Department of Urology; Dr. J. Eugene Lacy, Department of Nose and Throat; Dr. T. H. Aschman, Department of Obstetrics, and Dr. Carl N. Lindquist, Department of Medicine.

Dr. J. W. Duncan, Associate Professor of Surgery at the Creighton University, Omaha, Nebraska, recently visited at the Medical School.

Dr. A. W. Sellards, Associate Professor of Tropical Diseases, Harvard University, was the guest of Dr. Ralph H. Major at the Medical School.

There were twenty-three nurses entered this fall in the Nurses' Training School at the Bell Memorial Hospital.

In 1918, Dr. J. L. Porter of Paola, Kansas, bequeathed to the School of Medicine of the University of Kansas, a sum of money for the stimulation of scholarship and research in the Medical School. A portion of the income from this fund has been used to provide a scholarship for a worthy student. The remainder of the income is to be used to defray the expenses of an annual lecturer in medicine. Dr. Joseph Collins of New York City conducted the lectures this year at the Bell Memorial Hospital, which were held October 13 and 14.

—R—

Teacher (to new boy): "What's your name?" New Boy: "Erbert 'Arris." "Always say 'sir' when you are speaking to a master, it's more polite." New Boy (apologetically): "Sir 'Erbert 'Arris."

Medical Service in Federal Prisons

On May 13, 1930, the President approved an Act of Congress which authorized the United States Public Health Service to provide medical service in Federal penal and correctional institutions under the Department of Justice. Henceforth the medical and psychiatric work in Federal prisons will be supervised and furnished by personnel of that service. This new legislation is considered important in the field of penology and mental hygiene, and is part of the program for improving the conditions in Federal prisons, and also an effort to promote uniformity in the medical work of the Federal Government.

It is obvious that important problems arise in connection with the detailed care of Federal prisoners and that the medical service of a modern prison involves certain routine procedure and also certain research activities, the latter relating directly to the solution of medical administrative problems and to increasing the sum of knowledge concerning technical medical questions. The routine requirements of a prison medical service involve the psychiatric examination and classification of prisoners and the treatment and supervision of all mentally diseased inmates. It also involves the conduct of physical examinations sufficient in scope to permit of the prompt recognition and correction of physical defects and diseases. All the necessary facilities for reasonably meeting these requirements are largely technical or administrative medical questions.

The psychiatric examination and classification of inmates is of very great value to those concerned with the application of disciplinary measures; with the protection of the mentally disordered inmate; with the protection of other inmates and employees; with the treatment of prisoners generally; with the transfer of mentally disordered persons to institutions most suited to give specialized care; and with the subject of parole and discharge of inmates. A more intimate knowledge of the mental characteristics of prisoners should contribute to a better understanding of several features involved in correctional systems

generally; to the necessity for specialized methods in care and procedure; and to the evolution of institutional facilities to meet requirements applicable to specific types of cases. Such a program will intimately dovetail with other activities of the prison, having for their object individual care, supervision, and disposition of inmates.

It is obvious that the inmates of prisons are subject to the same intercurrent physical and mental illnesses, diseases, or defects, as are seen among those that comprise the general population. A properly organized prison medical service, therefore, must be both general and special in character to meet these needs.

A well-organized medical service in a modern prison can contribute to the welfare of inmates and employees in ways other than those mentioned, by rendering advice and counsel respecting sanitation and personal hygiene; by helping to organize and guide recreational, educational, occupational, and vocational activities with a view to promoting the health of both inmates and employees; and by giving assistance and advice for maintaining a wholesome and well-balanced dietary.

It is obvious that the chief medical officer of a large modern prison has an important and specialized duty to perform, and one requiring special training, administrative ability, tact, and judgment, and that adequate assistance is necessary for him to meet the demands of a well-balanced medical service.

R

Bromide Intoxication

Titus H. Harris and Abe Hauser, Galveston, Texas (J.A.M.A., July 12, 1930), report five cases and conclude that bromide intoxication is a frequent condition and must be considered in the diagnosis of any case showing an acute organic type of reaction. The diagnosis is simple with the Wuth comparator, which is accurate enough for clinical purposes and does not require technical skill. The symptoms, while essentially those of an acute organic reaction, will vary with the personality make-up and other toxic fac-

tors. After the clinical opinion has been confirmed the treatment is relatively simple, consisting of forcing fluids and administering large amounts of sodium chloride. If the patient is unable to take fluid by mouth, physiologic solution of sodium chloride may be given by rectal drip and hypodermoclysis. Usually after twenty-four hours of this medication the patient will be aroused enough to take liquids by mouth and physiologic solution of sodium chloride may be given in amounts of 8 ounces (235 cc.) every two hours. With this program he will get from 200 to 250 grains (13 to 16.5 Gm.) of salt in twenty-four hours. The patient may then become restless and more difficult to control, and he frequently expresses ideas of persecution and has hallucinations freely. These symptoms gradually subside as the bromide is eliminated and recovery occurs in from ten days to three weeks, depending on the severity of the bromide retention.

R

Mechanism of Spinal Block In Epidemic Meningitis

Paul F. Stookey, B. Landis Elliott and Frank R. Teachenor, Kansas City, Mo. (J.A.M.A., July 12, 1930), present extracts from a case history with its associated necropsy report to illustrate a typical spinal block with marked swelling of the spinal cord. In their experience, the most frequent cause of spinal block as a complication of epidemic meningitis is swelling of the spinal cord. When spinal block is established as a complication of epidemic meningitis, treatment should be instituted by drainage and instillation of Flexner's serum by way of the cisterna magna, associated with the intravenous administration of 50 per cent dextrose in an attempt to reduce edema in the spinal cord.

R

RELAXATIVES

"Shirts that laugh at the laundry," were advertised by a certain firm. One of ours, bought elsewhere, has such a keen sense of humor that it arrived home the other day with its sides split.—Punch.

* * *

Flapper: "How long after the anesthetic will it be before I know anything?"

Doctor: "Aren't you expecting too much of an anesthetic?"

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Mental Disturbances Associated With Childbirth

WILLIAM C. MENNINGER, M.D., Topeka

Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

The recognition of mental disturbances occurring with pregnancy and the puerperium dates back to Hippocrates who described such a case. However, even seventy-five years ago, the observation was made (March 1856) that "there is no form of insanity that may not occur in relation to the puerperium; the various forms (occurring in relation to the puerperium) present nothing specific." This observation has been verified many times. So it is technically incorrect to speak of puerperal mania, puerperal insanity, mania lactea as if these were diagnoses. Such terms continue to be used, though if we mean to designate by them special clinical forms of mental disease, they are misnomers and out of date.

The literature abounds with speculations as to the causes of the mental disorders occurring at this time. A great host of writers have searched for and suggested some physical causes for the mental disturbance, viz. metabolic disorder, endocrine disorder, blood dyscrasias, cardionephritic strain, toxemia, infection, etc. And it is well recognized that the extent of the physiologic changes in the mother which take place at birth are without parallel in any other life process. The situation is further complicated by the fetal and placental toxins.

No doubt some physiological changes in the body at large can cause mental changes. This is most commonly evidenced in deliria, but occurs in other diseases with toxemia or poisoning. On the other hand these mental changes are relatively rare and never specific.

From the point of view of neuropsychiatry we consider the brain and its

functioning as we do the endocrine or the hepatic or the cardiac systems. All of these are a part of the individual's equipment and all are subjected to the stresses of childbirth. Some women can pass through the entire procedure even of a most severe type without symptoms or signs of involvement of any of these systems. On the other hand, others who have always been physically well may develop symptoms in any of them. Some women pass through the process without any sort of mental variation and others who may have very little trouble with the childbirth physiology develop the most malignant of mental disturbances.

The answer to this is that some women apparently have a mental resistance too low to withstand the load of childbirth and while these women may achieve motherhood physiologically, they are unable to carry the load psychologically. The final result may be a disintegration of the personality.

FREQUENCY

The frequency of unusual mental variations in the course of pregnancy and lactation is high. We may expect some mental change in practically every case. The business of having a child is so uncommon in the lives of most women, that the psychological adjustment is always a problem of the first magnitude.

On the other hand, psychoses with the puerperium while not rare, are certainly not common. Zilboorg has collected some very enlightening statistics on the subject. Covering a total of 10,000 psychotic women, 8.7 per cent belonged to the puerperal group. The frequency of mental disorders occurring in pregnancy is variously estimated from 1 per cent to 5 per cent. No definite figures can be ascertained because most pregnant women are not considered from a psychiatric viewpoint. The actual process of

labor is a more critical factor in the precipitation of mental disorders than either the periods of pregnancy or lactation. Only from 3 per cent to 23 per cent of all mental disorders related to childbirth occur during the nine months of pregnancy; 6 per cent to 45 per cent occur during lactation, while the figures for the puerperium are 40 per cent to 86 per cent.

TYPES OF REACTION

The various types of reactions are as numerous as there are possibilities of mental reactions. Many studies have been made in which the cases have been classified as to the mental picture and the conclusion is nearly always the same. Kilpatrick and Tiebout of Bloomingdale Hospital, New York, in a recent, careful case study of this sort, conclude that "childbearing presents many problems of a physical and psychical nature which play a definite role in the production of psychoses. They do not of themselves, however, determine the type of reaction, but merely act as precipitating agents in the onset of the illness."

For convenience, this general group of cases fall into four groups: (1) Manic-depressive psychoses, (2) Schizophrenia (dementia praecox) (3) deliria and (4) psychoneuroses. I should like to discuss each briefly and illustrate with a case report.

MANIC-DEPRESSIVE REACTIONS

Perhaps the most frequent reaction belongs in the manic-depressive group. Many women, during even the early stages of pregnancy, are inclined to brief recurring attacks of depression. They cry easily, often without any apparent cause; they may appreciate that they do not know why they cry. Such depressed periods may occur with increasing frequency as the pregnancy proceeds, without ever amounting to any more severe mental trouble.

Women, during pregnancy, are recognized even by the laity, as being more sensitive during this period. They may be more irritable, more difficultly pleased. They are cut off from pleasures and often feel rebellious. Some look with fear to the portal of suffering through which they must inevitably pass.

They are fearful of the risk of labour and of the life of the child. They keep within doors to some extent, and take little pleasure in their clothes and personal appearance. All of these reactions are associated directly with the pregnant state, and most must be regarded as mental disturbances.

Severe, protracted depressions occur much more frequently than the manic state although it is generally assumed and so mentioned in several text books in obstetrics, that the manic state is most frequent. This apparent discrepancy is explained by the fact that most disturbed, excited patients do not belong technically to the manic psychoses group but to the schizophrenic (dementia praecox) group. As in other types of reactions, the mental symptoms may occur in either primipara or multipara. The immediate cause is regarded often as marital difficulties, unwanted children, physical exhaustion, etc. Many times the entire pregnancy may be normal, though the onset is usually so gradual that the date of onset is difficult to give.

Case Report—Referred to us by Dr. Harry Davis, Topeka. A college graduate, and wife of a college professor, went through a month's pregnancy ending in a miscarriage without any severe mental reactions. She became pregnant again within three months, went through the pregnancy, labor and two weeks in the hospital without apparent difficulty. Although the child had done well up until the time of the home coming, there was promptly a great deal of feeding difficulty, with much colic and crying resulting in the mother becoming sleepless and worried. While the baby's difficulties gradually ironed out the mother's worry progressed and with her worry her milk supply progressively diminished. Her concern rapidly developed into a moderately severe depression, with many tears, delusions of self-depreciation, suicidal ideas, apathy and loss of interest in general, a typical picture of the manic-depressive psychosis.

SCHIZOPHRENIC REACTIONS

The clinical picture of schizophrenia (dementia praecox) is precipitated in

about 15 per cent to 40 per cent of all puerperal psychoses. They present the poorest prognosis of any group and must be regarded as the most malignant type. Very few of them recover. Of 97 cases studied by Quensel 57, or more than half, failed to recover; 24 per cent of Streck-er's and Ebaugh's cases were in this group, failure of recovery was noted by Hoppe in 36 per cent and by Aschaffenburg in 47 per cent of puerperal cases. Kilpatrick and Tiebout included 10, all of a paranoid reaction, of which none recovered.

Case Report—A woman, age 22, referred by Dr. George Davis, Kanopolis, the mother of a five-year-old child, gave birth to a still born child. She had been under some stress during pregnancy because of her husband's failure in business, but had shown no marked mental changes. However, she showed no interest in getting up after the confinement and complained vaguely of occasional headache and gall bladder distress. Six weeks after her confinement she was taken to a hospital where she remained a month. After the first two weeks in the hospital she began to talk queerly, ate only if spoon fed, became sluggish in her responses. She began to act childish, would repeat any question asked her without answering it. She gradually became mute, rigid and had to be tube fed.

She presented the typical picture of schizophrenia of a catatonic type. She improved remarkably after about six weeks and was shortly discharged as recovered. She has continued well to date, three years following her illness.

DELIRIOUS REACTIONS

Cases of puerperal delirium sometimes associated with an obvious toxic state, constitute about 20 per cent to 30 per cent of the severe mental disturbances complicating pregnancy.

Delirium must be regarded merely as a symptom and it is not satisfactory to use it as a diagnosis. No doubt certain psychiatrists would classify such cases as we include in this group either under schizophrenia or under toxic psychoses. These cases are all characterized by irrelevant, rambling talk, hallucinations,

marked confusion and often pronounced fears. They are not always characterized by any demonstrable toxin, or even organic basis for the difficulty. They occasionally resemble a class of mental disorders known as exhaustion psychoses in which physical exhaustion seems to have played an important role in the causation of the mental symptoms.

Case Report—A woman, age 22, referred to us by Dr. A. F. Harrison, Topeka, gave birth to her third full term child in a normal delivery on January 5. She had been a nervous individual and had been more nervous than usual during this pregnancy although she had no psychotic experiences and had had no mental trouble in either of her first two pregnancies. On this pregnancy she had a normal convalescence and two weeks after the child's birth went home. She slept poorly, however, and began to worry because she was unable to fix any feeding mixture which the child could use. She became progressively more nervous, sleepless, and on February 4 began to talk queerly. She was removed to a general hospital, where she became very disturbed, irrational and confused, and thought she could see and feel men attacking her. She ran a fast pulse, occasionally a slight rise in temperature, a leucocyte count of 11,800, and a constant albuminuria.

She gradually developed stuporous periods, alternating with excited periods, during which times she would talk of men hitting her over the head, insisting insects were on her bed, and other hallucinatory experiences. She became progressively more stuporous and died February twenty-fifth, about seven weeks post partum.

ETIOLOGY

From the standpoint of seeking the cause for the mental disturbances associated with childbearing, we must, in most cases look further than the pregnancy itself. We have seen that any form of mental reaction may be precipitated by this same factor—namely pregnancy. Consequently we must regard the pregnancy in nearly all cases as merely the precipitating factor. To use

a familiar comparison, it is the additional straw that breaks the camel's back and not the load. In the few cases where the pregnancy in reality is the entire load, we must regard that particular camel's back as a weak one. We cannot overlook the possibility in some cases of a toxic state as the cause, for the strongest of personalities succumb to sufficient poison. However, a very small percentage of all such cases give any indication whatever of toxemia. The great majority are afebrile, have normal blood counts, normal blood chemistry, normal urinary findings, and in fact give us no organic basis to stand on as an explanation for the mental state.

To consider the etiology then, we must scrutinize the patient's mental condition before she became pregnant or at least before the acute mental breakdown occurred. Just as in all types of mental illness other than actual brain infection or tumors, the psychological background before the onset of the trouble is of prime importance. There is never one cause or even two or three causes. Always it is a situation or more often a series of situations plus the inherited makeup of the individual. In short it is a maladjustment some place in the sum total of the factors that have made up that individual's life—her inheritance, babyhood, childhood, education, occupation, marital life, etc. *plus* the pregnancy.

Pregnancy itself produces a revolutionizing set of psychological factors in every case. Whether the child is accidental or planned for, desired or not desired, perhaps financially a burden, possibly a physical danger to the life of the mother, months too early or years too late in its arrival—or even in the most ideal situations, the whole process requires tremendous psychological readjustment.

There is no question in many cases that the mental stress becomes unbearable and the woman's escape is her psychosis. This is very apparent in some cases and undoubtedly the explanation of the mental disturbance in many others, in which the immediate factors are not

so clear. It is well illustrated in the following case:

Case—A woman, 29 years of age, who married at 21, to a rather poor provider for a husband. Her first pregnancy occurred after a year, and the pregnancy and delivery were normal. The child, however, was sickly, developed asthma and hardly was out of his mother's arms before he was three years of age. Then at the age of five he developed meningitis from which he never fully recovered and the very severe asthma has continued. A second child was born when the first child was three years of age. A year and a half after this child, she became pregnant again but had a miscarriage at three months. The miscarriage seems to have been an induced one and was followed by much ill health on her part. During all this time her husband was out of work much of the time and she continually had a heavy financial responsibility. A year ago she had some sort of an operation relative to her pelvic organs and following this a depression developed; she wanted to stay in bed, didn't want to talk, and didn't want to have anything to do with anyone.

Last May she became pregnant again; her husband wanted her to have another abortion but she had gone through so much suffering with her previous one that she refused, but it is evident that they did not want the child. Her husband could not provide for her, so since last December she has resided with her husband's parents in a different city.

The child was born six weeks ago with a normal delivery and the patient's condition, both mental and physical, seemed to be good. She got up after two weeks but seemed very much distressed and worried about everything. She didn't have enough strength and dragged about the sister-in-law's home, lying down much of the time. She would take spells of sitting still and staring straight ahead for from five to fifteen minutes. When interrupted to ask what she was thinking of, she would answer, "oh nothing." This particularly irritated her mother-in-law with whom she was staying much of the time. She decided she had tuber-

culosis, "then pus pockets in her spine," "bowel trouble," backache, "hollow feeling in her head."

With all of this there seemed to be a great deal of moving about from sister-in-law's to mother-in-law's, then to mother's and back to her in-laws, eating one place, sleeping another, etc. Her sister was keeping one child, her mother-in-law the second and she was trying to keep the baby. Three weeks ago her husband arrived home unannounced, having thrown up his job. He failed to appear the next day, when she had expected him; the patient had an argument with her mother-in-law and then developed a "nervous chill" followed by hysterical manifestations.

Two days before coming to the hospital, she began to act and talk very queerly, thinking someone was about to get her. The following day she called everyone in great alarm and said she had a vision of the Revolutionary war, and that her soul had gone to heaven.

This case beautifully illustrates the escape of this patient from the painful realities of an increasingly difficult situation into a psychosis. The remarkable part of the case is that it didn't happen sooner. Away from her babies, her husband and her in-laws, and with some sympathetic appropriate treatment she has made almost spectacular progress in two weeks at the sanitarium.

SUMMARY

We must assume that the cardiovascular, renal, endocrinologic, and metabolic changes in pregnancy, childbirth and lactation are normal physiologic deviations, and that in every case there is some necessary psychological readjustment. Some women pass unscathed through the severest forms of these organic and mental deviations while others react to even the mildest difficulties by a profound and pathologic change in their psychic function.

The explanation must be that the mental integration is not sufficiently well organized to withstand the additional stress laid upon the organism by childbirth in its various phases. We would expect then that such women would show

signs of this weakened mental resistance, if carefully examined before pregnancy, and perhaps aid us in better preparing their mental system for the stress that follows. Consequently it seems wise, to investigate this field in every pregnant woman and even better, in the pre-pregnant state, just as we investigate the cardiovascular system, the renal system and the pelvic organs.

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—R—

Hemorrhoid Operation Under Local Anesthetic

CLAUDE C. TUCKER, M.D., Wichita

Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

Internal piles is one if not the most common complaint of people of middle life. In some countries reaching as high as 80 per cent of the people, perhaps 50 per cent of the people in America are affected after the fourth decade, though the American Indian is the only race not affected.

Hemorrhoids, an ancient malady, has been written about and discussed throughout the ages and were classified as far back as 1612, but it is just of recent years that general surgeons are manifesting more interest in proctology, as to pathology, diagnosis, and surgical technic.

It has not been many years since the field of proctology was opened up. The diseases of the anus and rectum being peculiar to themselves called for special treatment the same as the diseases of the ear, eye, nose, throat and genito-urinary organs: Thus, the proctologist, a man who has made a special study of this region of the body, came into existence—one who is able by special training to give either medical or surgical care to the case. He has especially qualified himself as to the pathology of this particular region and his operative work is directed along lines of permanent re-

sults, to conserve as much tissue as possible and at the same time to remove the pathological condition and by careful after treatment to promote healing as near normal as possible. When the public has become educated to the fact that a clean cut operation under local anesthesia is much safer, much more permanent, and much quicker than any injection method, we will have made greater strides in rectal surgery. It is a peculiar thing, but people suffering from rectal disease are usually timid and are looking for a way out which seems to be of least resistance. They are a nervous class of people because of the close relationship of the sympathetic and cerebrospinal nerves, thus, the reflex symptoms which can arise from rectal pathology are legions. It is not the purpose of this paper to go into the reflex symptomatology, but to go into detail in pathology and surgical technic. For classification and pathology of internal hemorrhoids I prefer to quote Mr. Ernest W. Miles of London, England, because his is the most complete and practical from a surgical standpoint.

An internal pile consists of a conglomeration of blood-vessels in the submucous tissue of the anal canal in the lower part of the rectum, which have become enlarged and tortuous and whose coats have undergone pathological change, partly hypertrophic and partly fibrotic. Arteries, capillaries, and veins simultaneously participate in this change, so that any given internal pile is made up of a mixture of three kinds of altered blood-vessels.

STAGES IN DEVELOPMENT

Internal piles are progressive in development and pass through three distinct stages: (a) primary, (b) intermediate, and (c) final. It does not necessarily follow that all the internal piles present in a given case are in the same stage of development. In fact this very rarely happens, it being a common experience to find that, with the exception of very old standing cases, all the stages are represented.

THE PRIMARY STAGE

When seen at this stage an internal

pile is small and covered with healthy, unaltered mucosa. Its presence cannot be recognized by digital exploration, owing to the small size of the tumor and to the compressibility of the dilated vessels. It is not sufficiently elongated to allow of it being protruded through the anal orifice, though it may be long enough to permit the lower extremity being gripped in the sphincteric zone during an expulsive effort. An internal pile in this stage of development bleeds readily, often profusely, whenever engaged in the grip of the sphincters; because the mucous membrane covering it still preserves a delicate structure and has not yet become thickened and tough through long continued friction. The only symptom to which an internal pile at this stage of its history gives rise is hemorrhage. This is often profuse and is repeated with each act of defecation. The blood passed is bright red in color, a circumstance which no doubt has given rise to the idea that an internal pile, in this stage of its existence, is arterial in structure. From the symptomatologic point of view the equation may be thus represented: Bleeding—recurrent, often profuse, during defecation and usually bright red in color. Protrusion—nil.

THE INTERMEDIATE STAGE

From constantly being dragged upon by the action of the sphincters during defecation, an internal pile becomes progressively elongated. When sufficiently elongated to permit of protrusion through the anal orifice, it may be said to have reached the intermediate stage of development. Concomitantly with increase in length, the internal pile increases in bulk, partly from increased dilatation of the component vessels and partly from exudation into the areolar connective tissue. From repeated protrusion, the mucosa becomes thickened, with the result that bleeding is less frequent and much less profuse than in the preceding stage. A characteristic feature in regard to protrusion is that the protruded pile becomes spontaneously reduced as soon as the expulsive effort has ceased or almost immediately afterward. After reduction has taken place,

protrusion does not recur until the next act of defecation. Owing to changes in the mucosa, the pile has lost some of its original bright red color. The symptomatologic equation at this stage is: Bleeding—less frequent and less copious, several actions of the bowels often taking place without bleeding at all. Protrusion—occurs with every act of defecation, is spontaneously reducible and does not tend to recur except during defecation.

When an internal pile has reached the intermediate stage of development, its presence can readily be detected, by the examining finger, as a thickened longitudinal fold, especially if the finger be rotated upon its axis during the observation. A pile in this stage can also be seen to protrude when the patient forcibly strains down.

THE FINAL STAGE

This stage is considered to have been reached when the protrusion is pronounced, is continuous and does not become spontaneously reduced. The protrusion requires manual reduction after each act of defecation. Even after manual reduction has been effected, recurrence of the protrusion takes place on slight provocation, such as passing flatus, coughing, sneezing, walking or standing for any length of time. The pile has also increased materially in size, a considerable proportion of its bulk consisting of fibrous tissue. The mucosa, from constant rubbing against the clothing, has become thickened and tough. In color the pile has assumed a purplish hue. Bleeding seldom occurs owing to the thickened mucosa. If bleeding occurs from piles which have apparently reached the final stage, it is either due to traumatism or to one of the piles not having passed beyond the primary or intermediate stage.

The symptomatological equation during this stage is: Bleeding—nil. Protrusion—continuous, unless manually reduced; marked tendency to recurrence during slight exertion.

The recognition that there are three distinct stages in the development of an internal pile is of great practical importance, because in any given case it is exceptional to find that all the piles have

reached the same stage. In fact, it is not uncommon to find that while one pile has reached the final stage, that is to say, is obviously protruded, a second may come only into view when the patient forcibly strains down; whereas a third may not be capable of being protruded at all, and cannot be recognized during digital exploration. Such a pile is still in the primary stage of development, is probably the cause of the bleeding complained of, and may be overlooked when an operation is being performed. Consequently in such a case, if the obvious piles only are removed while one, still in the early phase of development, is left behind, hemorrhage, one of the chief symptoms for which an operation for piles is performed, may recur after an interval of a few weeks or months.

THE NUMBER OF INTERNAL PILES WHICH MAY DEVELOP

When every possible internal pile has been developed, such, for instance, as may occur in an old standing case which has never been operated upon, there are usually seven, and only seven piles present. Very exceptionally (.5 per mille) there may be an eighth. This is due to the fact that the branch of the superior hemorrhoidal artery which is distributed to the right side of the rectum, after reaching the submucous tissue, ultimately breaks up into four branches; whereas that which is distributed to the left side of the rectum breaks up into three branches only, except in rare instances when it may give off a small fourth branch.

In about 70 per cent of cases there are only three or four piles present and these are usually found to be in different stages of development. Even in cases of old standing which have never been subjected to an operation, the full complement of seven piles are seldom present, because, at some time or another, one or more of them may have sloughed away as a result of spontaneous strangulation.

THE DISTRIBUTION OF BLOOD-VESSELS TO THE

TERMINAL PORTION OF THE RECTUM

The arterial supply of the lower portion of the rectum and of the greater part of the anal canal is derived from the

superior hemorrhoidal artery which is the terminal branch of the inferior mesenteric. The superior hemorrhoidal artery divides into two primary branches: one for distribution to the right side of the rectum and the other to the left side.

ON THE RIGHT SIDE

This branch, after having perforated the muscular coat, enters the submucous tissue and almost immediately divides into two branches: an anterior and a posterior branch. The anterior branch passes down in the right anterior quadrant of the rectum and finally breaks up in a meshwork of small vessels in the submucous tissue of the anal canal. This branch does not give off any branches.

The posterior branch passes downward in the right posterior quadrant to terminate in a meshwork in the anal canal and on its way gives off two branches, an anterior which passes downward along the line separating the right anterior quadrant from the right posterior quadrant, that is to say, toward the right point in the anal circumference: and a posterior which passes downward in the middle line posteriorly.

ON THE LEFT SIDE

This vessel after perforating the muscular coat, passes downward in the submucous tissue along a line dividing the left anterior from the left posterior quadrants toward the left point of the anal circumference, and remaining single until near its termination, gives off two branches: one anteriorly which is distributed to the left anterior quadrant and the other posteriorly which supplies the left posterior quadrant.

The distribution of the veins is similar to that of the arteries. They arise in a minute plexus which is found in the submucosa of that portion of the anal canal which is bounded below by Hilton's white line and above by the valves of Morgagni. This zone is known as the pecten.

When pathological changes take place in these vessels, rendering them tortuous, dilated, and thickened, the vessels which are affected first are the larger or main branches. The smaller or secondary branches become involved later. Consequently the first vessels, to under-

go pathological change, are those distributed (a) to the right anterior quadrant, (b) to the right posterior quadrant, and (c) to the left point. Hence the piles which result from these early vascular changes may be spoken of as primary piles.

Similarly the piles developing in connection with the secondary branches, namely, those distributed (a) to the right point, (b) to the middle line posteriorly, (c) to the left posterior quadrant, and (d) to the left anterior quadrant, may be considered to be secondary piles.

THE POSITION OF INTERNAL PILES IN RELATION TO THE CIRCUMFERENCE OF THE ANAL CANAL

Since the anatomical distribution of the various branches of the superior hemorrhoidal vessels is constant, each branch supplying a definite area of the circumference, it follows that the piles which develop in connection with those vessels preserve an invariable position in relation to the circumference of the anal canal.

The primary piles are three in number and are always found in the same relative position, namely: (1) in the right anterior quadrant, (2) in the right posterior quadrant, and (3) at the left point in the circumference of the anal orifice. Accordingly these primary piles may be designated: the right anterior, the right posterior and the left internal piles.

As above mentioned these three piles are the first to be developed. In about 70 per cent of the cases of piles the presence of these three piles is revealed and it therefore appears that this is by far the commonest combination. It does not necessarily follow, however, that all the three piles are in the same stage of development, so that if one of them has only reached the first stage it might escape detection, when an operation is being performed, unless specially looked for.

The secondary piles develop in connection with the primary and are practically off-shoots from them. The arterial branch which is distributed to the right anterior quadrant does not give off a branch; hence a secondary pile is not

associated with the right anterior (primary) internal pile.

The arterial branch distributed to the right posterior quadrant gives off two branches and accordingly, two secondary piles are developed in connection with the right posterior (primary) internal pile, namely: (1) a pile situated at the right point in the anal circumference, the right internal pile; and (2) a pile situated in the middle line posteriorly, the posterior internal pile.

Similarly two secondary piles are developed in connection with the left (primary) internal pile, namely: (1) a pile situated in the left posterior quadrant, the left posterior internal pile; and (2) a pile situated in the left anterior quadrant, the left anterior internal pile. In connection with this latter, there rarely may develop a small anterior internal pile.

The secondary piles, therefore, are: the right, the posterior, the left posterior, the left anterior and very rarely the anterior.

Mr. Miles describes a fibrous circular band surrounding the anal canal, and situated between the mucous membrane of the pecten and the external sphincter muscle, which he has named the pecten band. This does not exist in a healthy anal canal, but is purely pathological in origin and is due to passive congestion engendered either by varicosity of the superior hemorrhoidal veins or possibly in some measure by impediment to venous return as a result of habitual pressure on the veins of the rectum induced by the loaded state of the rectum in the chronically constipated, and it limits the expansibility of the anal orifice.

The choice of surgical operation under local anesthesia is the ligature. For there is an absence of odor from burning flesh, less scar tissue and less likelihood of secondary hemorrhage.

PREPARATION OF THE PATIENT

The patient should enter the hospital the night before and be prepared in the following manner: One or two pints of soda water enema is administered at 8 p. m., using one teaspoonful of soda to the pint. The following morning two hours before operating, the patient should

be given a pint of soda water enema. Then one-half hour before going to the operating room an 8 ounce boric acid enema is administered. The lower bowel is flushed in this way.

DRUGS

It is well to give $\frac{3}{4}$ to $1\frac{1}{2}$ grains of luminol the night preceding operation and one-half hour before operating give $\frac{1}{6}$ grain of morphine with $\frac{1}{150}$ atropine by hypodermic. This will take care of the nervous symptoms and the patient is in better shape for local anesthesia. The diet should be soft both night and morning preceding the operation.

LOCAL ANESTHESIA

There is no contra indication for the use of 0.5 per cent solution of novocaine either from old age or cardiac lesions. The advantages are many. There is the lack of dread of general anesthesia. The postoperative nausea and vomiting are nil.

TECHNIC

Place patient in the left Sims position with the knees flexed upon the abdomen. After having been prepared by scrubbing with soap and water, washed with ether and painted with alcoholic mercur-ochrome, all the structures about the anus to a level well above the internal sphincter should be infiltrated and this requires from four to six ounces of 0.5 per cent novocaine. The nerve supply of the external sphincter is derived from the third and fourth sacral and superficial branches of the internal pudic and the lesser sphincter. I prefer to use two 10 c.c. syringes. One 27 gauge needle, four two inch 22 gauge needles and two three inch needles, 22 gauge. All needles should be flexible.

Begin this anesthesia by making a wheal one inch posterior to anal orifice with a fine needle. Then insert a two inch needle in the wheal and infiltrate laterally each side of the posterior half of the anus. Deal with the anterior half in the same way. Then with one finger inserted in the rectum, inject close up to the rectal wall for a depth of 2 inches in the right posterior and left posterior quadrants. The right anterior and the left anterior are dealt with in like manner. One can feel the flow of the solution

along the finger and there should be a steady flow of solution ahead of the needle. It is quite important that the external sphincter become well infiltrated in order to get relaxation of this muscle. Care should be taken not to distort the operative field and one should allow an elapse of five minutes before beginning dilatation which should be done in the following manner. The index finger of each hand is inserted in the anterior and posterior commissures and by a slow and continuous traction the muscle gradually relaxes, but should there be found a pecten band this should be divided.

TECHNIC OF OPERATION

First Step—If a pecten band is present this should be divided for it is difficult to stretch this band without tearing it. The index finger of the left hand is passed into the anal canal and by it everting the lower margin. The mucocutaneous junction is then divided by a short radiating incision in the right posterior quadrant. If the band is not present then after gentle divulsion with the index finger as previously described one proceeds to the second step.

Second Step—Place a pair of Pennington triangular forceps on the skin at the anterior and posterior commissure and the points on the skin midway between the anterior and posterior commissure. By a slight traction on these forceps, the anal canal can be everted and all the pile bearing area brought into view.

Third Step—A pile forcep is now placed on the piles. The right anterior pile extends farther up the rectum and has no co-existing piles, and needs to be seized by a pair of forceps by itself. The right posterior is now dealt with, along with two secondaries which may be developed with this one and can be included with one grasp of the forceps. Finally the left pile is taken with any secondary piles. Even when as many as seven piles are developed they can be grouped under three.

Fourth Step—Grasp the forcep of the right anterior with the left hand with the index finger over the pile making slight traction at the same time elevating the pile. The hemorrhoid is dissect-

ed upward until it is attached by a narrow pedicle which contains the main blood supply.

Fifth Step—Now apply either a strong linen or heavy braided silk ligature about the pedicle as high up as possible while an assistant makes gentle traction. The ligature should be drawn very tightly with a knot on the bowel aspect. Cut squarely across the pedicle; enough stump should be left so there is no danger of slipping through the ligature and causing hemorrhage. The right posterior and the left pile are dealt with in the same way. If there is too much tissue included in the ligature it can be split up and two ligatures applied carrying one just a little higher up than the other.

Sixth Step—Now all external piles should be dealt with and all varicosities should be dissected out. One should not sacrifice all the mucous membrane of the anal canal but should endeavor to leave a narrow strip between the tumors. By doing this one lessens the likelihood of stricture and hastens the healing process. Always if possible leave some bridges of mucous membrane connecting the skin at the anal margin with the mucous membrane of the rectum above. One should cause as little trauma as possible and should carry the dissection well above the anal rectal line, care being taken that no fibers of the external sphincter muscle are caught within the grasp of the ligature, also that the stump is not within the grip of the external sphincter. If there is any redundant folds of skin about the anus they should be removed for if left will become edematous and painful because the parts cannot be properly cleansed after defecation. This may cause pruritus in those who are more or less subject to itching.

Final Step—Pass a speculum into the rectum and by gentle divulsion overcome any narrowing caused by tying off piles and also seeing that there is no bleeding within the rectum. Insert narrow iodoform gauze wick, coated with vaseline in the anterior and posterior commissures extending up the bowel beyond the dissection and apply a gauze dressing externally smeared with vaseline.

AFTER CARE OF THE PATIENT

The after care of the patient is just as important as the operation. The parts should be carefully but thoroughly cleansed twice a day, also after any action of the bowels. After removal of the gauze wick which is done in from 24 to 48 hours depending on the amount of tissue removed. Inject a 2 per cent solution of mercurochrome and apply vaseline gauze dressing. Often there is a spasmodic contraction of the levator ani muscle for the first two or three days which produces a jerking sensation of the patient. This can be controlled by the application of hot packs, care being taken not to burn the buttocks. The hot water bag will often relieve this condition. After the bowels have been moved, which should be done on the second or third day by a mild aperient, such as compound licorice and mineral oil, begin an injection of 10 c.c. witch hazel twice daily. When there is a smarting or burning sensation following defecation due to lodgement of fecal material high up in the wound a small boric acid enema should be given and the solution immediately passed out.

It is quite important when a great deal of tissue has been removed that one begin dilatation as early as the third day by passing the finger into the rectum and keep the granulations ironed out. This prevents the granulated surfaces from adhering together and should be kept up daily until the healing process has been completed. If this rule is carried out there is no danger of stenosis.

URINARY COMPLICATIONS

A patient should pass urine before going to the operating room, for after an operation for piles there is spasmodic contraction of the urinary bladder which may last for a number of hours. Therefore it is important to impress upon the patient not to strain or to attempt to pass his urine for twelve hours after the operation, at the end of that time he should be given a urinal and allowed to stand up, but should he not be able to micturate, another attempt should be made at this time after placing the penis in a glass of hot water, or if a female apply applications of hot cloths over the

genito-urinary organs. If the patient is once catheterized the performance has to be repeated for several days.

THE END RESULTS OF THE OPERATION

With complete removal of internal piles, that is the fully developed ones, recurrence cannot take place. Patients who are under forty years of age may not have had complete development of all piles. The operation does not prevent the development of those piles which were not developed at the time of the operation. It is apparent that one should have a knowledge of the different stages of the piles, as to position and zones of location with thoroughness of technique.

—————R—————

Hypertension

N. W. ROBISON, M.D., Bison

Read before the Rush-Ness County Medical Society, June 18, 1930.

Essential hypertension, also called hyperpyresis, hypertensive cardiovascular-renal disease, is a permanent elevation of the blood pressure without known cause. It is very common, especially in the United States and Canada, where it is said to rank with tuberculosis and cancer as a cause of death. It affects both sexes, and is found at all ages, but more especially between 40 and 50 years. It is more prevalent in cities than in rural communities. It is said to be more rare in India and China, and still more rare in the tropical countries. It seems to be less severe in this climate during the summer months, probably due to the addition of fruits and vegetables to the diet.

The onset is insidious, and the malady is often found during routine examination. Often the patient comes for treatment for headache, dizziness, cardiac complaints, retinal hemorrhage, palsy, aphagia, disturbance of kidney function, vertigo, etc. Some have lost weight, but more often the weight is increased in the early stages.

The thing that I would like to emphasize is, that a great many of these patients complain of gastric disturbances, and I believe that if we could know the first symptoms of our chronic hypertension sufferers, we would find that it was

heart burn, or a feeling of fullness, or gas on the stomach, in most cases. The reason for this distress is that the blood vessels of the digestive system are capable of holding more transitory blood than those of any other organ, and this gives a feeling of fullness, and causes a hyperacidity which inclines to excessive eating and drinking.

Overeating has been given as a cause, but I believe it is more properly classed as a symptom, caused by the hyperemia of the digestive system, as many of these patients are hearty eaters, and their hyperacidity creates an appetite, especially for meats, and their digestion is good. However this appetite must be controlled, as the toxins from excess foods increase hypertension.

The sphygmomanometer should be used as a routine in these cases, as well as in those of headache, and if it is used many cases of hypertension will be diagnosed early, while treatment will be of benefit, and measures may be taken to prevent further development. It is even good differential diagnosis as I have seldom found hypertension in cases of acute liver disturbances and more especially jaundice.

Special attention should be paid to the diastolic as well as to the systolic pressure, as the pulse pressure is important. It represents the amount of pressure the left ventricle must overcome before the blood will begin to circulate through the vessels, and a diastolic pressure of 100, or 110, is indicative of future trouble, as constant resistance or pressure against the heart will increase its work and tend to wear it out. The pulse pressure, or difference between the systolic and diastolic, should be about 40 m.m. and any great variation of this shows evidence of developing disease.

Temporary high tension may be due to excitement, and worry, and it may be elevated by a fear in the mind of the patient that you will find some hidden ailment. Again in aggravated cases, this temporary elevation may be the bomb that causes apoplexy or heart failure.

This disease is now regarded as a symptom without a uniform cause, and the treatment is difficult and consists

mostly of a search for the cause in each individual case. Focal infection must be diligently sought and removed, as should also causes for worry or anger. Those of sedentary life or occupation should be encouraged to exercise a reasonable amount in fresh air.

The food should be sufficient and palatable, but fats and carbohydrates should be limited to actual needs of the body and not sufficient to produce obesity. Salt and condiments should be limited, in so far as compatible with comfort, but the comfort and peace of mind must be considered and it is better that the patient be educated in the proper diet, than that he be irritated by changing his habits abruptly.

Especially in advanced cases drugs must be used, if for no other reason for the comfort of the patient. Among those used are nitrites, bromides, etc., which act quickly but without lasting effect. Sodium iodide, sodium salicylate, sodium sulphocyanate, etc., have more lasting effect. Organotherapy and whole gland of the pancreas have also been used.

Some advise letting of 8 oz. of blood to relieve the symptoms and to tide the patient over a period of threatened apoplexy or heart failure. The reduction of pressure, especially diastolic, may last several days. This treatment is used more especially in plethoric people.

In closing I wish to emphasize that if the sphygmomanometer is used more often, many cases of hypertension, some new and some advanced, will be found, often when least expected, and it will be possible to delay development or cure many of them. A pressure of 100 plus the age is too much but we find many such cases, and they should be treated with interest and every effort should be made to head off or prevent the development of this condition.

R

In the Melting-Pot

"Next." — "Who me?" "Born?" — "Yes, sir." "Where?"—"Russia." "What part?"—"All of me." "Why did you leave Russia?"—"I couldn't bring it with me." "Where were your forefathers born?"—"I only got one father." "Your business?"—"Rotten!" "Where is Washington?"—"He's dead." "I mean the capital of the United States?"—"They loaned it all to Europe." "Now, do you promise to support the Constitution?"—"Me? How can I? I've got a wife and six children to support."—"Open Road.

Avertin as Rectal Anesthetic, as Used in Bier's Clinic, Berlin

A. C. EITZEN, M.D., Hillsboro

Avertin, which was originated by Willstaetter and Duisberg and introduced by Eichholtz is tribromethanol, its formula being $\text{CBr}_3 \text{CH}_2\text{OH}$. It is a white crystalline powder, soluble in water at 40° up to $3\frac{1}{2}$ per cent.

PHARMACOLOGY

It is commonly used rectally, although experimentally also by peroral and intravenous administration. Absorption takes place very rapidly by the intestinal mucosa.

Elimination occurs mainly through the kidney, it being detoxicated by combining with glycuronic acid. Due to rapid absorption, sleep occurs very soon after injection—very often in five to ten minutes. The toxicity is not great if properly prepared and used in proper dosage.

Locally it is said to cause some irritation in rabbit's colon, but not in other animals or man, if proper precautions are used.

Respiration rate and volume in animals are somewhat decreased but not excessively even in two or three times therapeutic doses. In an animal subjected to vagotomy this was only slightly decreased, indicating that in the presence of dyspnoea the respiration center is relatively resistant to the drug.

The heart rate is usually only slightly affected except in excessive doses. The blood pressure commonly drops somewhat but seldom to a serious degree. Then it is combated by means of ephedrin or suprarenin.

In prolonged use on white mice giving 400-500 mgm. per kgm. daily over months, no effect on the liver or other viscera was noted. It was tolerated better than ether or chloroform.

ADVANTAGES OF RECTAL ANESTHESIA

In Bier's clinic avertin is used as the general anesthetic of choice. It has been very successfully developed and used there by Prof. Martin and Dr. Kotzogl.

It is certainly more agreeable for the patient than an ether anesthetic. It is simply given slowly like an enema and the patient experiences no discomfort,

nor is there any excitement stage. In fact many surgical patients request the "Darmmarkose" when coming in for operations. It avoids pulmonary and bronchial irritation, and is especially applicable to operations in and about the air passages.

Following the operation the patient remains in a sleep resembling the natural often for several hours and so the first pains following the operating procedure with shock are avoided. Postoperative vomiting and "gas pains" are largely avoided. The indications are those for other general anesthetics; e.g., ether; observing certain dangers and contra-indications.

Acute pulmonary diseases and lessening of the pulmonary area is a contra-indication. Acute renal conditions or post scarlatinal conditions are considered as contra-indications to the use of avertin. Chronic kidney conditions or impairment of one kidney, as by malignancy, tuberculosis or chronic pyelitis, are not considered as contra-indications, with the exception that a marked decrease in renal function as in bad bladder or prostate disease are not considered safe risks. In cardiac disease that does not improve with rest it should of course be avoided. Icterus due to obstructions is not considered as a contra-indication, but marked cholangitis is a definite contra-indication. In ulcerative colitis it would, of course, be avoided. Rectal carcinoma has been done with it; and no special preparation is necessary as it has been given with the digestive tract full. While an empty digestive tract is an advantage lavage of the colon is not necessary.

The two main dangers are that of respiratory failure and vasomotor collapse. In case of impending respiratory failure, CO_2 is used to stimulate respiration. This is considered by far the most successful stimulant by Martin, although caffeine and other stimulants are also used. It has been argued that the CO_2 acts as a nasal reflex but that is probably not true, because it has been found quite effective through the tube in cases that were tracheotomized. Excessive drop in the blood pressure which is very rare, is

generally very well combated by means of ephedrin or suprarenin.

Kotzoglou has carefully analyzed the deaths (immediate and remote) following anesthesia by means of avertin. It would appear that the 3 per cent solution, sometimes even in smaller dosages, is more dangerous than the 2 or 2½ per cent solutions. There were nine showing evidence of respiratory failure. Of these one had an undoubted over-dose. In two avertin would according to the above given dangers be contra-indicated. One aspirated blood and mucus after a plastic operation of the lips. Two received a dosage of only 0.1 gm/kgm but in the more concentrated solution. Three cannot be carefully analyzed because of lack of post mortem data.

There were seven who died of insufficiency of liver and kidney function. Apparently there was in these cases insufficient detoxication of the drug. Five of these remained somnolent and in three of these bronchopneumonia was the immediate cause or at least a factor in death. One of these was six weeks post scarlatinal. In one of the five a fatty liver was found. Here it is assumed that a previously damaged liver was at least partly responsible as it was a case of gall bladder disease. Of the remaining two one was a case of bladder carcinoma with chronic kidney insufficiency and one developed an acute nephritis following appendectomy. Of the entire seven at least two would be ruled out if the contra-indications were carefully observed. (The bladder carcinoma and a chronic prostate.)

There were five cases of heart and circulatory failure. Of these one was a markedly arteriosclerotic case which was doubtless the cause of the adrenal hemorrhages that were found. One was a case of tatanus. The other three are not carefully analyzed. We must remember that these may be factors after any anesthetic.

The three deaths due to colitis are undoubtedly due to lack of care in the preparation of the solution. Two further cases had a cholangitis which is given as a contra-indication. One further case died of an acute dilatation of the stom-

ach and one of a paralytic ileus, both of which conditions were adequately treated. Here one deals, of course, with a problem that can occur regardless of the anesthetic used. In addition there were eleven cases of deaths reported without adequate data.

In considering these it should not be forgotten that they include the earliest experiences with the drug and remote as well as immediate deaths. A number of them would without doubt have occurred regardless of what anesthetic had been used.

TECHNIC

While no special preparation of the patient is absolutely necessary a relatively empty digestive tract is highly desirable.

Table (Martin):

Age	Narcophin	Avertin	gm per kgm body wt.
1-14	—	0.17-0.18	
15-24	0.03	0.15-0.17	
25-34	0.03	0.14-0.15	
35-60	0.03	0.13-0.15	
60+	0.03	0.13-0.15	or less

The weight of the patient is taken in kilograms, and the requirement calculated according to the table just given. A moderate variation will be noted. A robust patient with good resistance will receive according to the higher figures while women, debilitated or cachectic patients will receive the smaller dosages. It is rather interesting to note that the amounts per kilogram in children are considerably higher than for adults. For children under ten Martin still advises caution as their experience with children is not yet extensive. Opiates or scopolamin as premedication are avoided.

The crystalline form of avertin may be used but it is now preferred in liquid form (dissolved in chloral hydrate, I believe) for sake of convenience, so that one c.c. represents exactly one gm. of the crystalline product. The required amount of the avertin fluid is measured and is added to an amount of distilled water heated to 40°C., such as will make a 2½ per cent solution. The fluid being quite heavy it has to be well shaken till all is dissolved. To this then is added as a routine to all cases without changing the amount, 30 c.c. of 20 per cent MGSO₄ and 0.03 gram of narcophin. These last two additions are constant except that

the narcophin is omitted in children.

It is extremely important that the solution should not be heated over 40°C., as there is some decomposition of the drug at higher temperatures: hydrobromic acid being liberated and dibromacetaldehyde formed which will invariably result in a colitis if there has been sufficient decomposition. If this precaution is observed no harmful effects have ever been noted. One may test for free acid with congo red solution. If present decomposition has occurred and the solution is discarded.

The patient is placed on the left side and colon tube with a funnel attached is inserted ten inches into the rectum and the solution slowly run in. The residual amount in the tube is forced into the colon by means of a rubber bulb injecting the air out of the bulb. The tube is withdrawn, the patient being asked to retain the fluid. The nates are drawn together and a strip of adhesive plaster placed over them to hold them together. This usually is entirely effective in causing retention of all of the fluid.

The patient being turned on his back is carefully watched and kept very quiet. Usually in ten or twelve minutes and often in six or seven he will go to sleep. It is usually necessary to hold the jaw up to keep the air passages open. Very commonly an air tube is inserted into the mouth. A slight cyanosis may be noted which soon disappears unless respiration is impeded. The pupils soon contract maximally but later dilate somewhat.

Operation is started thirty minutes after injection—not sooner. There may be a slight reaction to the skin incision and yet there will usually be satisfactory relaxation in spite of this occurrence. The skin reflex and especially the cough reflex are slow to be abolished. If, however, which is unusual, anesthesia is not sufficiently deep a very small amount of ether may be given. This with the above dosage is always very small.

Its use by Martin is that of a complete anesthetic with very infrequent necessity for the addition of ether. His recent figures run well below 5 per cent of cases

where a surprisingly small amount of ether is added.

On the other hand, a good many other European clinics and as far as I can ascertain, all American experimenters use it entirely as a basal anesthetic, giving about 0.1 gram per kgm. in a 3 per cent solution and giving the needed amount of ether by inhalation. In these cases ether is usually necessary to secure sufficient muscular relaxation, especially in abdominal work. The advantages for avertin here are, of course, the same as for complete anesthesia, possibly to a lesser degree.

The combination of Avertin-Magnesium sulfate-Narcophin is entirely Martin's idea and has been adopted by him rather recently, (1928). $MgSO_4$ is added because of its relaxation effect and the narcophin is preferred to other narcotics because of its narcotin content which has a stimulating effect on the respiratory center. He has tried other drugs and narcotics; scopolamin, dilaudid, pantopon, prolongal and without any other addition. None were as satisfactory as the narcophin. By means of this combination it is very rare to see a case not sufficiently relaxed for any work. Martin reports 107 cases by this method without accidents of any kind.

Unfortunately it appears that importation of narcophin is prohibited in this country.

Avertin has also been used in Europe in the treatment of tetanus, with very good results, although one or two deaths are reported. This is, of course, not surprising in a condition as serious as tetanus. Here doses of about 0.1 gm./kgm. are generally used and repeated as needed.

The drug has been used a good deal in Europe and has been on the open market there for several years. This is not true here; it has been placed on the market a few weeks ago.

In conclusion it may be said that avertin has certain definite advantages as well as limitations and is worthy of consideration. Aside from the field of surgery it has been used in the fields of pediatrics, obstetrics (including eclampsia) and psychiatry, generally with sat-

isfaction. The most important dangers and contra-indications have no doubt been established and by observing these and with conservative and careful use the results will probably generally be satisfying.

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Research Department, Winthrop Chemical Company, Laboratory Data.

— R —

Carbuncle of the Kidney—With Report of a Case

NELSE F. OCKERBLAD, M.D., F.A.C.S.

From the Urological Department, University of Kansas School of Medicine.

Kretschmer's definition of a carbuncle of the kidney is one that probably will stand the test of time. "By carbuncle of the kidney is meant an infection of the kidney by staphylococcus aureus, secondary to an infection elsewhere by this same organism, such as carbuncle or felon, in which the lesion in the kidney has the gross appearance of a carbuncle as seen in other parts of the body." Thompson's definition is also a good one, namely, "It may be described as a hematogenous infection of the interstitial tissue of the kidney producing a localized and circumscribed zone of multiple suppurating foci, leaving the remaining renal substance unaffected."

Thomas Moore, writing on this subject in 1928, said that he could collect only thirty-one cases from the English and German literature, and that there were casual references to twenty-one others. While it is found that the total cases reported in the literature to date does not exceed fifty cases, and some of these are doubtful because of the imperfectness with which they are reported, a good many of the carbuncles of the kidney have undoubtedly been passed over as perinephritic abscess or ordinary abscesses of the kidney without exciting curiosity or arresting the attention of the operator.

Thomas Moore reports two cases, one of which was subject to operation and pathological report and beyond question

was a carbuncle of the kidney. The second case is open to some considerable doubt inasmuch as there was no exploratory operation done, merely the clinical



Pyelograms showing dilated kidney pelvis on right with blunted calyces. There is also an absence of the lower calyx on the right. Note the narrowing of the ureter in the upper third corresponding to that portion of the ureter which was compressed by the dense, leathery, perirenal, inflammatory hands.

diagnosis made and intravenous therapy of mercurochrome, and under intravenous therapy of mercurochrome the lesion in the kidney cleared up. I do not believe a true carbuncle of the kidney would ever clear up under intravenous therapy, for as Eisendrath has pointed out even simple drainage is not sufficient in these cases.

It was Israel who first described this disease in 1901, and called it carbuncle of the kidney. He did so because of the striking similarity between this condition and the ordinary carbuncles of the skin. One of Kretschmer's cases was bilateral. Four months after the nephrectomy his patient died, and the autopsy revealed a carbuncle in the remaining kidney. Nephrectomy is apparently necessary for the cure of the vast majority of cases. Israel and Barth have each reported

cases in which the carbuncle was resected and in which the patient recovered.

In my case, which is herein reported, the carbuncle was resected followed by recovery. I feel certain that the possibility of resection of the carbuncle depends much upon the size and location of the carbuncle itself. A large carbuncle which occupies the middle area of the kidney in all probability could not be resected. One which occupies the upper or lower pole of the kidney might be easily resected. By far, the greater number of cases reported in the literature have occurred following some primary invasion of the skin and its appendages, or other structures, such as the middle ear, or sinuses.

CASE REPORT

C.A.R., a white male, aged thirty-three years, admitted to the Bell Memorial Hospital, December 1, 1927. His complaint was distress and pain in the epigastrium and right upper quadrant of the abdomen. The onset of his illness was nine months before with a sharp pain in the right upper quadrant just under the costal margin. He had to quit work after two weeks, and go to bed. The physician, who was called at that time, pronounced the disease pleurisy and bronchopneumonia. The patient was ill in bed for a month with the "pneumonia" and for his "pleurisy pain," but during convalescence his "pleurisy pain" did not leave. An interval of one month elapsed, during which time the patient was relatively free from symptoms but was unable to work on account of weakness. He had been unable to work for nine months prior to admittance to the hospital. Nocturia once or twice, no diuria, and no hematuria. He has been married ten years; five children living and well. Rests fairly well and sleeps fairly well. He has lost thirty-five pounds in weight in nine months time.

Examination shows a somewhat emaciated white male, of about stated age, pale and anemic, lying in bed with no apparent discomfort. There is to be felt in the right upper quadrant a large mass, the outlines of which are not sharply defined, and the mass seems to gradually

merge with the surrounding structures so that one gains the impression of a large, inflammatory, brawny tumor. It is not tender like a perinephritic abscess, nor does it have the same general feel. The urine contains a trace of albumin, some fine granular casts, and 400 pus cells per cubic millimeter. Blood chemistry shows NPN 41.6 mg. per 100 c.c.; urea 10.74 mg. per 100 c.c.; creatin 1.2 mg. per 100 c.c.; sugar 63; NaCl 470; leukocytes 12,650.

Cystoscopic Examination: There was no obstruction in the urethra. The bladder was normal throughout. The ureters were two in number and normally placed upon the trigone. No. 6 catheters passed readily to the kidney on either side. 25 c.c. of residual urine was found and aspirated with syringe from the right kidney pelvis.

PHENOLSULPHONEPHTHALEIN TEST

	10 Minute Fractions				
	Appear. time	Amt.	1st 10 m.	Amt.	2d 10 m.
Left	4 minutes	20 c.c.	7%	23 c.c.	8%
Right	4½ minutes	19 c.c.	7%	20 c.c.	9%

Stereo-*x*-ray plates with opaque catheters in place, showed a large mass obscuring the normal anatomy of the right upper quadrant and obliterating the psoas shadow. Pyloureterogram showed slight distention of the right kidney pelvis, a marked narrowing of the ureter for about 10 cm. below the uretero-pelvic junction, blunting of calices, and the calix to the lower pole was completely obliterated. On the basis of these findings, an exploratory operation was advised.

Operation performed under spinal anesthesia. A curved lumbar incision was made, extending downward and following the lines of the vessels across the loin. This incision was carried through the muscle layers to the perirenal space. There was no glistening yellow fat, as is ordinarily seen, this being replaced by, what seemed to be, either tumor tissue or inflammatory mass. Dense masses, which were apparently inflammatory tissue, extended in all directions in the kidney area. The upper pole of the kidney could be made out, but densely adherent about this was a thick layer of leathery membrane, which represented the fat capsule of the kidney. We encountered pus go-

ing through this membrane, and at the lower pole of the kidney, we found typical carbuncle of the kidney. This was dissected off with the blunt dissector, and removed entire. The kidney did not bleed, and the kidney was left in place and freed of dense adhesive bands. Three large rubber drain tubes were placed in the wound, two cigarette drains, one rubber tube and a piece of iodoform gauze. The wound was then closed, using silk-worm gut stay sutures. Dressing was applied, and the patient was taken back to his bed in good condition.

The patient made an uneventful recovery, and is still in perfect health now, nearly two years after this operative procedure.

The pathological report by Dr. H. R. Wahl is as follows: Section shows more or less diffuse chronic and acute inflammatory reaction, extending throughout the kidney surface. There is considerable atrophy of the kidney tissue. Some lipoid granulation may be noted here and there, particularly close to the pelvis. There are some foci of granulomatous areas. All of the blocks show kidney tissue, except one, which is made up of dense hyalin fibrous tissue, and fat tissue infiltrated, with a considerable number of leukocytes, mostly of a polynuclear type. Diagnosis: Acute and chronic suppurative nephritis.

Pure cultures of staphylococcus aureus were obtained from the pus end from the carbuncle itself.

Apparently it is not possible to make a definite diagnosis of this disease. One must explore the kidney and then because of the striking similarity between this lesion in the kidney and the carbuncle of the skin, as pointed out by Israel and others, one can make the diagnosis at time of operation, for it is localized to one portion of the kidney and not diffuse as in multiple cortical abscess, but has the same arrangement as a carbuncle of the skin. The diagnosis may be suspected and may be made as the provisional diagnosis before operation, but it is doubtful if anyone could be sure of the diagnosis without operation. Carbuncle of the kidney is an evidence of staphylococic septicemia, be-

ing metastatic from some distant point. Therefore, it is a fairly dangerous type of bacterial invasion of the kidney. It is frequently accompanied by perinephritic abscess, and as Kretschmer has pointed out, one of the diagnostic features of it is the finding of these leathery adhesive masses which surround the kidney and replace the fat capsule and the retroperitoneal fat.

In the case which I have reported herewith, there is in the radiograph a distinct obliteration of the calix to the lower pole of the kidney. Also there was a marked constriction of the ureter where it ran through the leathery, dense, inflammatory adhesions. There can be no doubt that many of these carbuncles have been overlooked even when they have been operated upon because the surgeon not being familiar with the subject, merely passed them up as some type of pyonephrosis.

Theodore Thompson writes that the prognosis is generally good when early diagnosis is made and active treatment instituted; whereas, failure to recognize the condition may lead to disastrous results. This opinion is amply verified by the clinical observation of others.

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R

TUBERCULOSIS ABSTRACTS

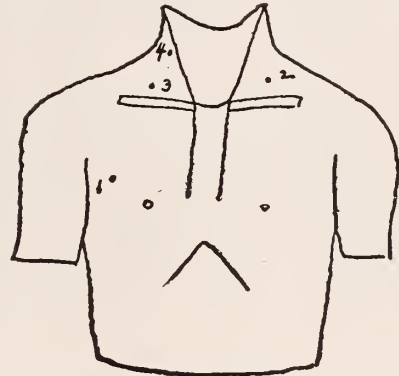
In making a physical examination of the chest, the general practitioner should be able to arrive at a correct diagnosis or conclusion in nine-tenths of the cases. Yet it is common experience that many cases of tuberculosis remain undiagnosed long after that should have been possible by the means now at our command. This unfortunate situation is due largely to the unsatisfactory method of teaching physical examination technique to the medical student and to the far too complicated treatment of the subject in our textbooks. Such is the opinion of James Alexander Miller, who in the foreword of "Procedure in Examination of the Lungs" by Arthur F. Kraetzer commends this little book as a "real contribution in simplifying the methods involved." Brief abstracts of the book follow.

PROCEDURE IN EXAMINATION OF THE LUNGS

Conventional teaching of physical diagnosis is deductive. It starts with general principles and works down to the specific. Actual examination of a patient is inductive. It begins with the gathering of particular findings and then works

upward to an inductive conclusion. Of course, the student must visualize the entire field of possibilities; he must have a descriptive knowledge of disease, but the development of a good examination technique is best acquired by the inductive method. The author follows this plan in his book, reproducing the actual steps taken in the clinic to gather the facts of an individual case and to deduce therefrom the causative condition or pathology. Chest diagrams amplify the text.

He says: "Nothing in Medicine is worse done than the early diagnosis of tuberculosis, and one of the factors that contributes to this is, I am sure, the unnaturalness and obscurity of early training. Not only the method, but also the matter, is vague. Nothing could be more confused, for example, than the classical



Four points are selected for comparative practice

and utterly obsolete classification of rales. The terms crepitant and subcrepitant are entirely ambiguous. They have no place in modern clinical terminology."

SYSTEMATIC PRACTICE NECESSARY

In learning to distinguish the characteristics of chest sounds as revealed by percussion and auscultation, it is well to practice leisurely and patiently on a willing, normal subject. Four topographical points are selected for comparison in the following order:

1. A point rather low in the right axilla (gastric tympany and heart sounds on the left may cause confusion).
2. The left supra-clavicular region.
3. The right, supra-clavicular region.
4. The side of the neck.

In percussion, the resonance or duration of sound is easily detected by asking, "Which sound lasts longer?" Determining the pitch of the percussion note is somewhat more difficult, especially for ears not delicately attuned. However, unmusical ears can learn to detect differences by trying to "sing" the sound elicited. The student should also remember that the duller of two notes is always the higher pitched. When the differences in resonance in the four points selected are distinguishable to the student, he begins to hear more subtle shadings.

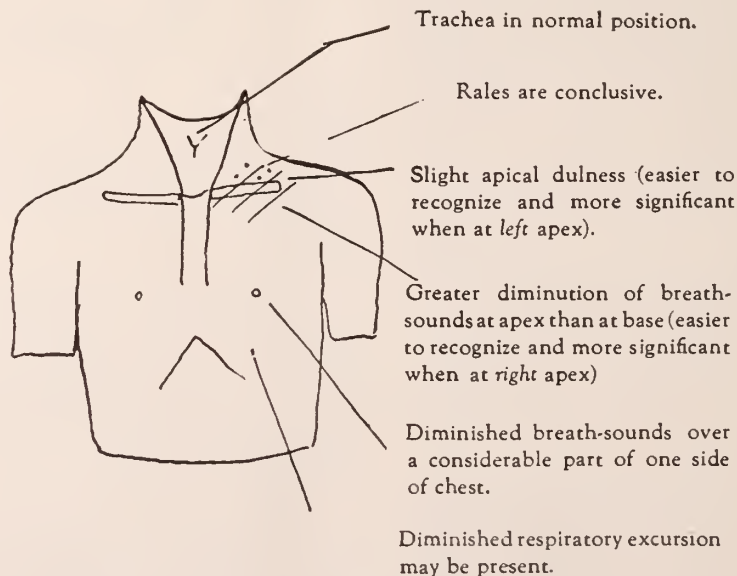
In auscultation, the four selected points are compared for (a) intensity, or rather, loudness (one does not have to be a Laemec to determine that); (b) length of respiratory sound (which is quite as easy); (c) pitch of respiratory sound, being careful not to mistake intensity for higher pitch; (since loud sounds and those of high pitch are more readily heard than less loud sounds and those of less low pitch, it is easy to fall into the error of concluding that a loud sound is of high pitch, whereas it may actually be lower pitched) (d) the quality of breath sounds, such as that like the gentle rustle of microscopic leaves (vesicular) as

heard well at point one, and at the other extreme the hollow tracheal sound as heard at point four. When the several differences and combinations of these qualities are mastered, the student learns to "synthesize" them in terms of the physiological and anatomical structures that give the sounds their characteristics.

With this preliminary mastery of the sounds of the four selected points of the normal chest, the student is next introduced to the study of the entire chest. Inspection comes first; in addition to general appearances, there are certain conditions which must be specifically looked for, such as the position of the trachea, the pitch of the chest, and clubbing of fingers. Then follows palpation, which includes tactile fremitus. Percussion is next pursued systematically and always by comparing one side of the chest with the other.

RALES AND THEIR MEANING

The four succeeding chapters are devoted to auscultation, including one exclusively on rales. The author deplors the "strained effort to endow a particular rale with a specific and invariable significance," which has caused so much confusion in diagnosis. The most gen-



1. Diminished breath-sounds over a considerable part of one side.
4. The area of diminished breath-sounds is resonant (except perhaps at the apex).

1. The patient is not in pain and is not dyspnoeic.
 Diagnosis: Without apical rales tuberculosis is suggested. With apical rales, tuberculosis is certain.

eral and, at the same time, accurate statement he is willing to make about rales is that they represent either inflammation or transudation, which includes "about all that can happen to a lung." To interpret the meaning of rales, he recommends the following three criteria; namely, the consideration of:

1. All the data that have gone before under symptoms, inspection, palpation, percussion, and changes in breath-sounds.

2. The geography of the rales, whether at the top, hilum, base, or some intermediate and unclassifiable area of the lung; whether unilateral or bilateral; whether localized or generalized; whether few or many.

3. The actual type of rale itself, whether dry, moist (fine, medium or large), sibilant or sonorous.

A fourth and often essential criterion is the *x*-ray. These criteria are carefully elaborated and described.

"SIGNS" OF TUBERCULOSIS

Chapter XI on "The Signs of Tuberculosis" bears as a sub-heading the scriptural quotation: "A wicked and adulterous generation seeketh after a sign, and there shall no sign be given unto it." This sentence, he says, is highly applicable to the diagnosis of tuberculosis. A positive sputum is the only sure sign of tuberculosis, but finding tubercle bacilli in the sputum is not diagnosing tuberculosis in the modern sense of discovering the process in its early stages and in the minimum of time. Tuberculosis is diagnosed by a skilled technique plus a peculiar synthetic discipline of the mind. This harmonizes with the observation of Miller, who in the foreword says: "physical signs are by no means always the most important evidence in making a diagnosis of pulmonary tuberculosis. In many, if not the majority of cases, the diagnosis should be suspected at least, if not really made, from the history alone, and in so many cases does it occur that physical signs are very scanty or absent or perhaps not pathognomonic, that if a student or physician acquires a habit of relying upon

physical signs for diagnosis, many mistakes will result."

R

A Summary of the Records of Sixty-five Cases of Recoveries From Leprosy

A report recently issued by the Public Health Service gives an interesting summary of the value of medical treatment for leprosy at the National Leprosarium which is conducted by the Public Health Service at Carville, La. More than 300 lepers, men, women and children, are under treatment there.

During the past ten years, 65 lepers have been discharged from this hospital as apparently recovered from leprosy and no longer a menace to the public health. The average period of hospital care varied from 5 to 9 years. The shortest period of treatment was 1½ years and the longest was 17 years. Fifty-five of these patients received crude caulmoogra oil by mouth, and sixteen of this group received no other medicine. Twelve received benzocaine-chaulmoogra oil by intramuscular injection, and four of these received no other medical treatment. Twenty-one received the ethyl esters of chaulmoogra oil by intramuscular injection, and eight of these received no other medicine.

The basic treatment of leprosy is similar to that for tuberculosis, and all lepers at the National Leprosarium, no matter what medicines are given, follow a sanatorium regimen of food, fresh air and rest; almost identical with that prevailing in a tuberculosis hospital.

R

Glycol ("Prestone")

A death is ascribed to drinking Prestone. Prestone is ethylene glycol. It is an excellent antifreeze agent for automobile radiators but a questionable beverage. Ethylene glycol has been introduced as a nontoxic substitute for benzene in lacquers and paints. There is no record of untoward effects from its proper use. Taken as a beverage, intoxication and death are reasonable expectations. (J.A.M.A., June 14, '30.)

R

"My dear, all men are cast pretty much in the same mould."

"Yes, but some are mouldier than others."—Tit-Bits.

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SOME RECENT DECISIONS

Those who care to speculate may find something worth while in the following extract from an Associated Press item that appeared in the Kansas City Star under date of October 10:

Medford, Ore., Oct. 10.—Robert Gordon Duncan, "Oregon Wildcat" and radio speaker, was convicted here today of using "obscene, indecent and profane" language over the radio. He was convicted on the third count of the indictment and acquitted on four other counts.

The third count charged Duncan with maligning B. F. Irvine, associate editor of the Portland Journal, and Paul T. Shaw, member of the Portland school board.

The penalty is a maximum of five years in prison.

Duncan was prosecuted on the grounds he had violated federal laws in his use of the radio. Station KVEP in Portland, over which he spoke, was closed by the government.

Duncan made a series of talks against chain store operation and attacked many Portland business men.

The statement as made leads one to wonder if "obscene, indecent and profane" language over the radio is in vio-

lation of law only when used to malign someone or if there was insufficient evidence to sustain the other four counts. It is hardly likely that there would be any lack of evidence as to the kind of language used over a radio. One also wonders if this decision will establish a precedent and if maligning the medical profession, individually and en masse, would be regarded in the same light as maligning an editor and a member of a school board.

Here is another case that may also interest the medical profession. This is an extract from an Associated Press item that appeared in the Kansas City Star under date of October 15:

Muscatine, Iowa, Oct. 15.—Application for an injunction enjoining Norman Baker, cancer institute operator, from practicing medicine without a license, was refused by Judge C. L. Ely in county court today. Four employes of Baker, however, were forbidden to practice.

Judge Ely's action followed a trial last month in which the state charged that Baker and his assistants were diagnosing, treating, and prescribing for cancer cases without medical licenses. The defense made a general denial, contending that the five defendants carried out the orders of licensed physicians.

The persons enjoined are Harry M. Hoxsey, Charles Gearing, Myrtle Gresham, and Mary Turner, the latter two nurses at the hospital. Since the action was started Hoxsey has severed his relations with Baker, and is suing him for a share of the institute's profits alleged to be due him.

Judge Ely in his decision held that he could consider testimony covering only the period in which all five defendants were together at the hospital. Hoxsey, the last to arrive, joined Baker last March 14.

The court stated that while evidence was introduced showing that Baker had practiced medicine without a license, it applied to instances before that date and therefore was irrelevant.

This is something to speculate on and especially the last sentence in the item. It would be interesting to read the opinion in full, but then it is not easy for a layman to understand the legal technicalities involved in the prosecution of a criminal. It is not easy for him to find the viewpoint of the court in reaching its decisions, whatever they may be. He will probably fail to appreciate the fine discrimination of principles outlined in the various quoted decisions establishing precedents upon which other decisions are made. He will more than likely differ from the court in the evaluation of the evidence presented. In fact the mental attitude of a layman toward laws and their enforcement is hardly different from the mental attitude of laymen toward the application of scientific medicine.

One's lack of understanding sometimes leads him to suspect motives and influences that do not exist. Just as a layman's lack of understanding may lead him to misinterpret the diagnosis of a physician and to suspect his ability or integrity.

The following Associated Press news item surprised no one, but it is particularly distinguished for its clarity and definiteness.

Washington, Oct. 20.—Dr. John R. Brinkley of Milford, Kan., whose fight to prevent the revocation of his medical license has attracted wide attention, failed in the supreme court today in his effort to have set aside the state law regulating the cancellation of physicians' licenses.

The highest court, thru Chief Justice Hughes, announced that the appeal would be dismissed because it failed to present a substantial federal question. The court refrained from passing in any way on the merits of the controversy presented by Brinkley.

Over the radio Brinkley characterized this as "good news," at any rate it is

probable that neither he nor his attorneys were any more surprised than others. In fact it may be surmised that the appeal was taken simply for the purpose of securing a delay in the hearing by the board of examiners.

Here is another item that appeared under date of October 20:

Jefferson City, Mo., Oct. 20.—A hearing before the Missouri state board of health in Kansas City, October 30 for Dr. J. R. Brinkley, Milford, Kan., has been postponed, Dr. James Stewart, secretary of the board announced today. Failure of the sheriff of Junction City, Kan., to serve Dr. Brinkley with the subpoena caused the postponement. Brinkley is cited to appear before the board to show cause why his Missouri license should not be revoked on a charge of unprofessional conduct.

Since the action of the Missouri Board is only delayed this item is of no particular importance. However, mention might be made of the kind hearted sheriff whose oversight or negligence saved to Brinkley a few days out of his campaign for the coveted honor of being governor of Kansas.

The most recent event in the Brinkley matter is announced in the following extract from the Topeka Daily Capital, October 25:

Charging the medical societies and the Kansas City Star and Times with being in a conspiracy to put him out of business, Dr. John R. Brinkley, Milford, Kan., goat gland surgeon and independent candidate for governor, filed an application for an injunction in the federal court yesterday to enjoin the state medical board and William A. Smith, attorney general, from carrying out the order revoking his license.

Judge John C. Pollock signed a temporary restraining order and set the hearing for a temporary injunction for November 10 at the federal court in Kansas City, Kan.

This item of news suggests another field for speculation. For instance, each state is presumed to be supreme in the enactment and enforcement of laws exercising its police power. It has always been held that the enactment of laws to regulate the practice of medicine was an exercise of the state's police power. One might conclude then that the question to be determined in this injunction trial is whether the federal government can restrain the state in the exercise of its police power.

DEFINITIONS OF OSTEOPATHY

The law providing for the examination and licensing of osteopaths in this state reads, in effect, that the candidate having passed a satisfactory examination in the subjects enumerated "the board shall issue to said applicant a certificate granting him the right to practice osteopathy in the State of Kansas, as taught and practiced in the legally incorporated colleges of osteopathy in good repute," but in no place does the statute define the term "osteopathy." Under similar circumstances the courts usually accept meanings or interpretations given by accepted authorities. Since the privileges granted to osteopaths by this license may depend to considerable extent upon the meaning of the term, some effort has been made to discover what, if any, definitions have been recognized.

The Bureau of Legal Medicine and Legislation of the American Medical Association has very kindly supplied us with a list of definitions culled from various authoritative sources, from which much of this is quoted.

But first it may be well to call attention to the fact that from 1909 until 1913 when the osteopathic board was created, osteopaths were examined and licensed by the Board of Medical Registration and Examination, as provided by Section

8090, General Statutes of Kansas, 1909, and they were definitely limited in their practice by the following clause in that section: "But they shall not administer drugs or medicine of any kind nor perform operations in surgery."

That a proper definition of osteopathy has been under consideration by the Kansas Supreme Court is indicated by the fact that in its decision in the case of *State v. Johnson* in 1911 the following was quoted with approval from 6 Words and Phrases, 5070: "Osteopathy is defined (Webster's New International Dictionary) as: 'A system of treatment based on the theory that diseases are chiefly due to deranged mechanism of the bones, nerves, blood vessels and other tissues, and can be remedied by manipulations of these parts.' It has been judicially defined as: 'A method of treating diseases of the human body without the use of drugs, by means of manipulations applied to various nerve centers—chiefly those along the spine—with a view to inducing free circulation of the blood and lymph, and an equal distribution of the nerve forces. Special attention is given to the readjustment of any bones, muscles or ligaments not in their normal position.'"

And again in its decision in the case of *State v. Eustace* in 1923 the following was quoted with approval from 3 Words and Phrases, New Series, 803: "A method of treating diseases of the human body without the use of drugs, by means of manipulations applied to various nerve centers, chiefly those along the spine with a view to inducing free circulation of the blood and lymph, and an equal distribution of the nerve forces. Special attention is given to the readjustment of any bones, muscles or ligaments not in the normal position. It is that method of the healing art accom-

plished by a system of rubbing or kneading the body."

The term osteopathy is defined in the statutes of a number of states but in practically every instance they are vague and indefinite as to what is meant by the practice of osteopathy. In Maryland, New Jersey and North Carolina some effort at definition is made:

Annotated Code of Maryland, 1924: "Osteopathy is defined within the meaning of this act to be a system of treatment based on the theory that diseases are chiefly due to deranged mechanism of the bone, nerves, blood vessels and other tissues and can be remedied by manipulation of these parts."

Cumulative Supplement, Compiled Statutes of New Jersey, 1924: "A method of healing whereby displaced structures of the body are replaced in such a manner by the hand or hands of the operator that the constituent elements of the diseased body may reassociate themselves for the cure of the disease."

Consolidated Statutes of North Carolina, 1919: "For the purpose of this act, osteopathy is defined to be the science of healing without the use of drugs as taught by the various colleges of osteopathy recognized by the American Osteopathic Association."

However, in the following it would seem that an effort was made to avoid explanations:

Statutes of Nevada, 1925: "Osteopathy is defined to be 'that system of the healing art which placed the chief emphasis on the structural integrity of the body mechanism as being the most important single factor in maintaining the well-being of the organism in health and disease.'"

Compiled Statutes of Oklahoma, 1921: "The word osteopathy as used in this

act is the name of that system which places the chief emphasis on the structural integrity of the body mechanism as being the most important single factor to maintain the well-being of the organism."

Barnes' West Virginia Code, 1923: "The word 'osteopathy' as used in this act is the name of that system of the healing art which placed the chief emphasis on the structural integrity of the body mechanism as being the most important factor in maintaining the well-being of the body organism in health and disease."

The supreme courts of other states have also found occasion to attempt a definition of the practice of osteopathy.

The Supreme Court of Idaho, in its decision in the case of *State v. Sawyer* in 1923 quoted from *The New Standard Dictionary*, the following: "A system of treating disease without drugs, propounded by Dr. A. T. Still, 1874. It is based on the belief that disease is caused by some part of the human mechanism being out of proper adjustment, as in the case of misplaced bone, cartilage or ligament, adhesions or contractions of muscles, etc., resulting in unnatural pressure on or obstruction to nerve, blood or lymph. Osteopathy . . . seeks to adjust correctly the misplaced parts by manipulation."

The following is quoted from the Supreme Court decision in the above case: "Osteopathy therefore, we are justified in concluding from the foregoing and similar definitions, is a system of treating diseases of the human body without drugs and by means of manipulation. The word 'manipulation' certainly does not cover and include the practice of surgery in any form."

The following is quoted from a decision by the Supreme Court of Alabama

in the case of *Bragg v. State*, 1913, which was heard on an agreed statement of facts, and indicates what the practice of osteopathy means to an osteopath: "The method of treatment by the practitioners of osteopathy is a system of manipulation of the limbs and body of the patient with the hands, by kneading, rubbing, or pressing upon the parts of the body. In the treatment, no drug, medicine, or other substance is administered or applied, either internally or externally; nor is the knife used or any form of surgery resorted to in the treatment. . . . The repudiation of drugs and medicine in the treatment of disease is a basic principle of osteopathy, and a knowledge of drugs or medicines, their administration for the cure of diseases, the writing and giving of prescriptions, are not essential to the graduation of, and the issuance of diplomas to, students of osteopathy."

PARTY LOYALTY?

Before this is printed everyone will know how many votes Brinkley got and what effect, if any, they had on the results of the election, so there is nothing to be gained by speculation at this time.

There are, however, some features in connection with Brinkley's candidacy that might be amusing to one who has no party affiliations and no interest in the outcome of the election. If there is any foundation in fact for the rumors that have been circulated they make a most accurate character sketch of the man. Something more than two years ago, resolutions from the State Society and letters and telegrams from county organizations and from individual members of the societies were sent to the federal radio commission, all of them protesting against the renewal of Brinkley's radio license. If any consideration at all was given to these protests no one was made aware of it. It was generally under-

stood that strong political influences were working for his protection. When the clamor to revoke his license became audible to the politicians in the state the agitators were met with knowing smiles or with the advice to let the matter rest. There have been rumors that had at least a plausible background that his political protection was not confined to Kansas but that there were those in Washington who placed a high estimate on his influence with the voters in Geary county. Whether there is any foundation for these particular rumors or not it would be easy to convince any one familiar with the details of the Brinkley matter, that a good many of the leading politicians in this state were in sympathy with him and gave him all the protection in their power to give. Since the influence of members of the party in power only could be of any value to him it must be concluded that his protection came from Republicans. In spite of this he entered the campaign as a candidate for governor in opposition to the Republican nominee. And it has been suggested by the political correspondents of both the *Star* and the *Capital* that he was encouraged by the Republicans on the theory that he would draw votes from the Democratic nominee. At least it must be admitted that these Republican leaders did not use their influence to eliminate him from the race, but it is rather doubtful if he was encouraged by the Republican friends of Mr. Haucke.

MORE ABOUT THE COSTS OF MEDICAL CARE

The committee on the Costs of Medical Care has recently issued a pamphlet in which is reported a study of the medical service offered to its employees by the Endicott-Johnson Corporation, tanners and manufacturers of shoes, employing more than 15,000 people or an aggregate employee population, workers and their

families, of 41,121 to whom the service is available. The service includes everything required in the way of medical or surgical treatment, dental services, physiotherapy, drugs and appliances, spectacles and artificial teeth, nursing, hospital care, etc. There are employed, 28 physicians, 4 dentists, 5 dental hygienists, 2 physical therapists, 67 trained nurses, 4 bacteriologists, 4 pharmacists, 17 technicians, 16 clerks and office assistants.

The cost of this service for 1928 was approximately \$900,000. Of this amount \$161,207.19 was paid to full time physicians on the staff and \$38,878.50 to private practitioners on a fee basis.

Although this service was available to 41,121 there were only 35,181 who used it. It is stated that the cost per individual for the 41,121 was \$21.81 per year, but the cost per individual for the 35,181 who used the service was \$25.49 per annum. One may easily conclude that the cost per individual for 41,121 people if all had used it would have been \$25.49 instead of \$21.81, or at any rate something would necessarily be added by the additional service required for 6,000 people.

It is interesting to note that of the total cost only \$200,085.69 was for the services of physicians or a per capita cost of \$5.69 per annum for those who used the service, or \$4.87 per capita for the whole employee population of 41,121.

There are some desirable items of information lacking in this report. For instance it might be of some importance to know how this service is supported; whether or not the cost is borne entirely or partially by the corporation; whether or not the employees met all or part of the expense; whether or not the assessment is compulsory; whether or not assessments are proportioned to the sal-

aries or wages or to the number of dependents to each employee.

The report states that none of the physicians on the Endicott-Johnson staff received less than \$3,000 and none more than \$12,000 per annum. It might be worth while and of some interest to know if these physicians are paid regular salaries or if their incomes are based upon a per capita rate of service or upon service fees.

There were 15,230 employees and if the cost of the service is borne by them alone the cost will be nearly \$4.97 per month, per capita. If the cost is assessed to each employee according to the number of his dependents then the assessments of a man with a wife and one child would be \$5.45 per month of which \$1.19 goes to the physicians for their services.

The report shows that the staff physicians received \$161,207.19 and that they made 87,400 house calls and received 118,740 office visits. Assuming that house calls should be estimated at twice as much as office visits the physicians received \$1.10 for house calls and 55 cents for office visits provided no extra charges are allowed for surgical, obstetrical or other attendance. However, it is probable that the staff is really a group of specialists and practitioners so that when the fees or salaries of the specialists are deducted from the total amount paid the staff the prices for home and office calls would be considerable below the above estimate.

Presumably the findings in this survey have some bearing on the problem of the cost of medical care. At least one may learn that a tolerably efficient and complete medical service can be given to approximately 35,000 people at a per capita cost of approximately \$25.00 per annum. Presumably this is lower than the average cost to those dependent upon private practitioners for their medical attention.

At any rate the pamphlet states: "At present it is impossible to ascertain the source of all the economies which seem to be achieved. Subdivision of function relieves the skilled professional worker from the necessity of performing subsidiary and routine tasks; overhead costs are reduced by means of modern business devices, by large scale buying, and by the continuous employment of professional, technical and clerical personnel."

The outstanding source of the economies referred to is not mentioned unless it was supposed to be included under the head of "large scale buying," for the difference between the retail price and the wholesale buying figures of the medical services utilized by this corporation, even calculating surgical, obstetrical and special attendance under the head of house and office calls, is just a little matter of \$338,472.81.

CO-OPERATION DESIRED

The following is quoted from a letter just received from Dr. Wm. C. Woodward, Director of the Bureau of Legal Medicine and Legislation of the American Medical Association.

"It was solely through the efforts of the American Medical Association that Congress recently authorized the co-operation between the Federal Government and the governments of the several states, by providing:

"That the Secretary of the Treasury shall co-operate with the several states in the suppression of the abuse of narcotic drugs in their respective jurisdictions, and to that end he is authorized (1) to co-operate in the drafting of such legislation as may be needed, if any, to effect the end named, and (2) to arrange for the exchange of information concerning the use and abuse of narcotic drugs in said states and for co-operation in the institution and prosecution of cases in the courts of the United States and before the licensing boards and courts of

the several states. The Secretary of the Treasury is hereby authorized to make such regulations as may be necessary to carry this section into effect.' *An Act to create in the Treasury Department a Bureau of Narcotics, and for other purposes, approved June 14, 1930, section 8.*

"The influence of the Kansas Medical Society in promoting the establishment of effective co-operation as contemplated by the act will go a long way, it is believed, toward determining whether the legislation that the American Medical Association proposed and sponsored will or will not be successful."

A REASONABLE REQUEST

In the September number of the Journal, one year ago, mention was made of the nullification of the State narcotic laws by an amendment passed by the legislature in 1928. The bill which was passed at that time amended section 65-617 of the Revised Statutes to read: "The provisions of this act shall not apply to decocainized coca leaves or preparations made therefrom or preparations of coca leaves which do not contain cocaine: Provided, this act shall not apply to any preparation containing less than ten per cent alcohol."

Section 65-617 was repealed, so that all the provisions of the State Narcotic law became applicable only to the sale of preparations containing ten per cent or more of alcohol. In other words, in so far as our state law is concerned, pharmacists may sell narcotics of any kind, in any strengths and in any quantities, without a physician's prescription, except only laudanum and paregoric. However, the law does prohibit the sale of paregoric and the Secretary of The Kansas State Board of Pharmacy, who states that he is a law-enforcing officer, has requested that the following letter be published:

Editor, Kansas Medical Journal,
Topeka, Kansas

At the last meeting of the Kansas legislature, the Narcotic law was amended so that it is unlawful for a pharmacist to sell Tr. Opii Camphorated unless sold on the prescription of a duly registered physician.

The Attorney General has ruled that these prescriptions cannot be refilled.

This office has had considerable difficulty in the enforcement of this law, due to the fact that a great many of our physicians are not familiar with the act.

As a law-enforcing officer it is my duty to see that this law is strictly complied with and it would be of great assistance, both to the physicians and the pharmacists of the state, if you would broadcast in your publication the fact that paregoric can be sold only on prescription of a duly registered physician and that the prescription cannot be refilled.

Very truly yours,
MAC CHILDS, *Secretary*
State Board of Pharmacy.

It is fortunate that the sale of narcotics is controlled by the Federal narcotic regulations. These, however, permit the restricted sale of paregoric without prescription. It is understood that the purpose of the amendment was simply to provide that paregoric should also be included in the provisions for the sale of other narcotics. So that the amendment together with the federal regulations does actually accomplish the purpose. However, one must be inclined to suspect that the law mechanic who framed that bill was just a little bit careless.

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CHIPS

Paul Mehans, writing in one of the German medical publications, claims to have treated one hundred prostatic cases by means of a ligation of all the efferent vessels leading from the testicle to the head of the epididymis, excluding all blood vessels. He says the operation can be done under local anesthetic and is

painless and free from danger. His cases ranged from initial difficulty in urination to total retention. The gland is not materially reduced in volume but becomes softer and the obstruction is relieved. After ten days the symptoms have disappeared. In cases of retention a retention catheter is used for five days and after that period is dispensed with except for a few days at night. He claims uniform success and permanent relief.

In the August number of the Surgical Clinics of North America, Hendon describes a method of introducing food and fluids into the vein which seems to meet some very definite requirements in peritonitis and other conditions where the patient is *in extremis*. A specially made gold canula is fixed in a vein in the arm, is connected by rubber tubing to a thermos bottle which has been filled with a solution of dextrose in normal saline solution. The flow is controlled by means of a screw clamp and is so regulated that the rate is about one or two drops to each contraction of the heart, or so that the amount of dextrose and fluid required in twenty-four hours will enter the vein at least during that period. One pound of dextrose gives approximately 2,000 calories and this amount may be dissolved in from 2,000 to 5,000 c.c. of the normal saline solution. By this slow introduction of fluid into the vein there is no increase of work for the heart and the supply of food and fluid is constant. Life has been maintained in this manner for several weeks with no bad effects observed. The author has given the name venoclysis to the procedure.

As a result of his studies of the healing of wounds in human beings, Hartwell, Archives of Surgery, July, 1930, concludes that fat plays an important role in the process, in fact, fat is the place where the healing process occurs, and lymphocytes are the primary infiltrating cells which become macrophages. Fat is the food for the healing cells. The final fibrous material is largely deposited by the disintegration of the healing cells, so that the subcutaneous fat serves as the chemical basis for the healing fibers. He suggests that this may ex-

plain the wide distribution of fat in the body, particularly along fibrous structures subject to trauma, such as the skin and fascial sheaths. The evidence that lymphocytes of the blood are the primary healing cells is found in the presence of large numbers of lymphocytes, and transitional forms between lymphocytes and macrophages, and many of the latter have nuclei almost identical with lymphocytes.

In a clinic on gas bacillus infection by Maes, reported in the August number of the *Surgical Clinics of North America*, some very interesting and pertinent observations are made. There are numerous gas bacillus organisms and four or five that are outstanding. A pure strain is not found so that while an antitoxin may kill one strain it fails where there are numerous strains. Gas bacilli cannot live without sugar and thrive best on muscle sugar so that muscle wounds should be suspected. Limited blood supply seems to be a predisposing factor. Oxygen inhibits the growth of these organisms and the large amount of oxygen in the blood stream is inhibitory. The author referred to some investigations by Gage in which it was observed that gas bacillus infection most frequently occurred when the injuries occurred through woolen clothing or when woolen blankets had come in contact with the wounds. This was explained by the fact that the gas bacillus is a spore bearing organism and the normal habitat of the spores is the intestinal tract of domestic animals, especially sheep, and sheep's wool is always contaminated. Samples of woolen material from various sources were secured, they were washed and cultured and in every instance spores of anaerobic organisms were identified.

W. Burton Wood, in the *Lancet*, October 4, writes about pulmonary tuberculosis in general practice and calls attention to modern methods of diagnosis and the former fallacies in diagnosis. He seems inclined to question some of the generally accepted opinions concerning this disease. He says: "There are still those who maintain that pulmonary tuberculosis is the most easily curable of

diseases. The general practitioner who knows that most of his young consumptive patients die within a few years of the onset of symptoms may well be skeptical. If we exclude mild latent infections, primary infections of the childhood type, lesions situated above the clavicle and certain of the more chronic fibroid types of the disease occurring in later life, pulmonary tuberculosis remains one of the most fatal of all diseases and one of the most difficult to treat, even in its early stages."

The early dramatic successes in the treatment of syphilis with 606 may have been partly due to the pyrexia with rigors caused by giving the drug in 100 c.c. of imperfectly sterilized normal saline, is suggested by Sequeira in a discussion of the activation of syphilis by treatment, *Lancet*, June 21. On account of the difficulty of controlling patients, especially ambulant patients, efficiency in dosage has been sacrificed to expediency and has led to the evolution of arsenic-fast spirochetes and to the activation of latent microbial infections. He says that jaundice is not an evidence of toxemia due to arsenic, but is produced by the stimulation of a latent syphilitic hepatitis by inadequate treatment. There is no question of the activation of latent syphilis by drugs, and this danger is greatest when the trivalent arsenicals are used, particularly in small doses. It is better to leave these cases alone though they may have a positive Wassermann than to submit them to inadequate treatment. To diminish the risks of infection we must probably continue to treat all syphilis in the active stage, but in later cases it seems reasonable to ask whether we should not pay more attention to the condition of the patient than to his Wassermann reaction.

"We consider surgical intervention only substitutional therapy, substituting the dominant myxedema for the less dominant state of hyperthyroidism and not in any way altering the real constitutional condition but only alleviating it. A perfect surgical result depends on the chance development of equilibrium between the hyperthyroidism and the de-

velopment of myxedema." That is the conclusion reached by Clarke and Black from their study of one hundred eighty-one cases of thyroidectomy, reported in Archives of Internal Medicine, August, 1930. Seventy-six of the cases were studied at an average of two and one-half years after operation. It was found that fifty-eight per cent had gained weight and in about the same number the pulse rate was below normal. The pulse rate was above normal in about the same number as had failed to gain weight. A large number had developed abnormally high blood pressure since operation. They classified the results as 16 per cent well, 40 per cent moderately improved, 34 per cent slightly improved and 10 per cent showed definite recurrences. They regard weight as an accurate preoperative guide.

Polycythemia may be produced in animals by reducing their oxygen supply, and jaundice can be produced when the oxygen supply is returned to normal. On this finding, Goldbloom and Gotlieb explain the occurrence of icterus neonatorum, New York State Journal of Medicine, October 15. Icterus neonatorum is present in all newborn infants whether it is visible or not, and is hemolytic in origin. Prenatal polycythemia probably results from the inefficiency of the placenta as a respiratory organ and the arteriovenous mixture of the fetal circulation. There is a large destruction of red cells in the first day or two of the infants life and a return to the adult normal at the end of the first week. The liberated hemoglobin produces bilirubinemia.

It would be pertinent to inquire what factor occasions the increased fragility of the red cells, since the increase of oxygen alone is hardly sufficient explanation.

SOCIETIES

BOURBON COUNTY SOCIETY

The Bourbon County Medical Society met in regular session October 20, 1930, at 8:00 p. m. in the library building, with Dr. Gooch the president in charge.

Minutes of the last meeting read and approved.

There were twenty-two doctors present; Iola, Blue Mound, and Pleasanton being represented.

Dr. L. P. Engel of Kansas City, Mo., was the first speaker, he gave an excellent talk on the surgical treatment of goiter.

Dr. P. T. Bohan of Kansas City, Mo., was the second speaker of the evening, he used as his theme "goiter heart," and it was a wonderful presentation. Following the two speakers, the papers were discussed by Drs. Wilkening, Mitchell, Young, Crume, Engel and Bohan.

Meeting adjourned.

DR. W. S. GOOCH, President.

DR. R. Y. STROHM, Secretary.

DICKINSON COUNTY MEDICAL SOCIETY

The Dickinson County Medical Society met at Abilene, Kansas, as guests of the Abilene doctors October 23. After a fine chicken dinner a good program was enjoyed. Dr. Ray Gomel was received into membership, being transferred from the Wyandotte County Medical Society. Dr. H. R. Turner of Hope read a paper on basal metabolism, devoting most of his time to the hypo-activity of the thyroid gland. Dr. Theo. Kroesch of Enterprise gave a report on the high lights of the Fall Clinical Conference at Kansas City. Dr. W. A. Klingberg told very interestingly of his recent trip to Europe. The following officers were elected for the coming year: L. G. Hines, president; Daniel Petersen, vice president; Ray Gomel, secretary-treasurer; Harley Marshall, delegate to state meeting; Theodore Kroesch, censor.

Herington, Kansas, was chosen as the next place of meeting.

DANIEL PETERSEN, M.D., Secy.

OFFICERS OF KANSAS MEDICAL AUXILIARY

President—Mrs. C. W. Reynolds, Holton, Kansas.

President-Elect—Mrs. C. B. Van Horn, 815 Topeka Blvd., Topeka, Kansas.

Vice President—Mrs. J. T. Axtell, 411 West 16th St., Newton, Kansas.

Secretary—Mrs. E. J. Nodurfth, 1844 Wellington Place, Wichita, Kansas.

Treasurer—Mrs. W. G. Emery, 603 Schilling, Hiawatha, Kansas.

SHAWNEE COUNTY SOCIETY

The regular monthly meeting of The Shawnee County Medical Society was held at the Topeka State Hospital, Monday evening, November 3.

The program was furnished by Dr. Perry and his staff of physicians. Dr. Doyne and Dr. Schaffer each showed cases of paranoia.

A discussion of the report of the committee on newspaper advertising brought out so many different views that further consideration was postponed to the January meeting.

Transfer cards were presented by Dr. M. D. Hill and Dr. Divine and these were accepted. The application of Dr. L. A. Curry of Winchester was given first reading.

A committee on arrangements for the annual meeting was appointed. Meeting adjourned.

DEATHS

Harold J. Chapman, Speed, aged 62, died June 30 of peritonitis following operation for obstruction of duodenum and gall stones. He was a graduate of Wisconsin Eclectic Medical School, Milwaukee. He was a member of the Society.

Lewis S. Hall, Augusta, aged 74, died at a hospital in Wichita after an illness of two months duration. He graduated from Bellvue Hospital Medical College, New York, in 1878. He had practiced in Augusta for fifty years.

BOOKS

Minor Surgery and Bandaging by Gwynne Williams, M.D. Published by F. A. Davis Company, Philadelphia. Price \$3.50.

This is the twentieth edition of this little manual which is prepared especially for the use of house surgeons. Such changes have been made in the text as recent progress in surgery necessitates. It is well illustrated, printed on thin paper and bound with a flexible cover.

Primer on Fractures, prepared by the Co-operative Committee on Fractures. Published by American Medical Association, Chicago. Price \$1.00.

This is essentially a compilation of the charts and illustrations or illustrated folders used in connection with the fracture booths at the annual meetings of the American Medical Association. To these charts the committee has added descriptive legends which add very materially to the value of the compilation. Just a glance at this work is sufficient to impress one with the fact that much care was used in their preparation. The price is ridiculously small for a work of this character.

Medical Clinics of North America, New York number, September, 1930. Number 2, Volume 14. Published by W. B. Saunders Company, Philadelphia.

Doan from the Rockefeller Institute for Medical Research describes the newer aids to diagnosis and prognosis in tuberculosis. Herrich presents a case of meningococcal infection. Williams describes some myocardial cases. Held and Goldbloom have a very elaborate article on pathogenesis of peptic ulcer. Pugh discusses tuberculosis of the kidney in childhood. Guion has a paper on the treatment of diseases of the thyroid gland. Baehr and Klemperer have a clinic on thrombosis of the portal and of the hepatic veins. Heiman and Cohen discuss the subject of peribronchial infiltration in children. Eidelsberg's clinic is on endocrinopathies. One of the very interesting papers is by Crampton on synthetic diagnosis. Stevenson and Hyslop present a case of epithelioma of the brain. Brock discusses embolism of the systemic arteries. There are also contributions by Floyd, Craver, Wyckoff and DeGroff and by Graves.

Anatomy, handbook of, by James K. Young, M.D., revised by George W. Miller, M.D. Seventh edition. Published by F. A. Davis Company, Philadelphia. Price \$3.75.

There has been very little change in the text in this edition. The latinized form of nomenclature has been preserved. For a handbook it is unusually complete and being printed on thin paper with flexible cover makes a very convenient reference book.

Cop (to motorist): "Hey, you can't park next to the fire hydrant."

Motorist: "Oh, yes, I can. This car is on fire."

Fellowships for Training In Extramural Psychiatry

MINIMUM REQUIREMENTS FOR APPLICANTS

These fellowships are designed to provide special training for physicians who have had previous hospital training in psychiatry but who wish to prepare themselves for extramural work in the fields of child guidance, delinquency, education, dependency, and industry.

Fellowships are open to physicians who are:

1. Under thirty-five years of age
2. Graduates of Class A medical schools, and
3. Who have had at least one year of training in a hospital for mental disease maintaining satisfactory standards of clinical work and instruction. A longer period of hospital training is desirable.

Applicants able to meet these requirements will not be required to take competitive written or oral examinations. Selections will be made on the basis of length and type of previous training in formal psychiatry; on general fitness for the work contemplated; and (in most cases) on the results of a personal interview.

GENERAL DETAILS OF FELLOWSHIPS

1. These fellowships cover a period of training approximately one year in length.

2. During this training period trainees usually are assigned for three to four months' periods at such places as the Boston Psychopathic Hospital; Judge Baker Foundation, Boston; Institute for Juvenile Research, Chicago, and other places of a similar nature, as well as to various child guidance clinics located in Cleveland, Philadelphia and other cities. Assignments to these training centers are not definite, however, and assignment to any given place will depend upon the availability of instruction at such place, as well as the special needs of the individual trainee. Assignments are not made for more than three months in advance, and adherence for the year's training period to a fixed program in advance is impossible.

3. These fellowships carry stipends at the rate of \$2,000 to \$2,500 for the twelve months' period.

4. Applications need not be filed within stated periods but will be received at any time. In the case of successful applicants, arrangements will be made to begin work whenever mutually convenient to the applicant and to the director of the training center to which the applicant is first assigned.

Applications or inquiries for further information should be sent to Dr. Frankwood E. Williams, Medical Director, National Committee for Mental Hygiene, 370 Seventh Avenue, New York, N. Y.

—R—

Studies on Digitalis in Ambulatory Cardiac Patients

Harry Gold and Arthur C. DeGraff, New York (J.A.M.A., Oct. 25, 1930), assert that in the average ambulatory cardiac patient with auricular fibrillation and moderate heart failure a much lower "effective concentration" of digitalis in the body suffices to produce full therapeutic effects than is required in the average bedridden patient in advanced congestive failure. The authors have shown that, in the ambulatory patient, full therapeutic effects, as judged by the usual clinical criteria of improvement, can be produced by the daily repetition of a relatively small dose of the drug that can then be continued as the daily maintenance dose without producing toxic symptoms. It is well known that such results cannot be obtained with such small doses in the average patient with far advanced congestive failure; the larger daily doses usually required in these cases cannot be long continued without producing toxic symptoms. In the average ambulatory cardiac patient there is a wide margin between the minimum dosage that produces full therapeutic results and the maximum that can be tolerated without toxic symptoms. This margin is frequently smaller in patients with far advanced failure and the latter often require the largest dosage that can be tolerated in order to produce the best results. It is the accepted practice to use relatively larger doses of digitalis to produce the full therapeutic effects and then relatively smaller daily ones in order to maintain these results for long periods of time. The usual ex-

planation is that the smaller doses are necessary in order to maintain the high "effective concentration" of the drug produced by the larger ones. Evidence has been set forth proving, however, that the "effective concentration" of the drug within the body necessary to maintain the full effects is usually much lower than that required to produce them in the beginning.

—R—

Therapeutic Value of Digitalis in Pneumonia

John Wyckoff, Eugene F. Du Bois and I. Ogden Woodruff, New York (J.A.M.A., Oct. 25, 1930), report the results of their study of 742 patients; 338 received digitalis; 404 did not. There was no evidence that routine digitalis therapy in lobar pneumonia results in a lowered mortality; in fact, the mortality was a little higher in the digitalized group than in the nondigitalized group. In pneumonia patients with sinus rhythm the only consistent evidences of digitalis effect are electrocardiographic changes and mild toxic effects. About 95 per cent of patients have sinus rhythm throughout the course of lobar pneumonia. Clinical symptoms of digitalis toxicity are not a sufficient guide in digitalis therapy in lobar pneumonia to prevent increase in mortality when the drug is used. The amount of the drug given is a better guide. When given in dosage too small to show any effect, it causes no changes in mortality. When given in dosage comparable with the amount usually needed in the treatment of heart failure, it produces effect on the P-R interval and T wave of the electrocardiogram but causes little change in mortality. Digitalis may perhaps be life saving in an occasional patient with auricular fibrillation or auricular flutter. Auricular fibrillation and auricular flutter occur rarely, in less than 5 per cent of all cases. Patients developing this condition frequently recover without digitalis. It is concluded by the authors that the routine giving of digitalis to patients with lobar pneumonia is dangerous.

Drinker Respirator

Philip Drinker, Boston; Thomas J. Shaughnessy, New York, and Douglas P. Murphy, Philadelphia (J.A.M.A., Oct. 25, 1930), have found by experience that the respirator is effective in cases of acute anterior poliomyelitis, gas poisoning (carbon monoxide), alcoholic coma, drug poisoning (morphine, heroin, barbitol) and drowning. There was one postoperative respiratory failure and one failure in asphyxiation of the new-born. In the latter case the child was kept alive but died later of complications. There is a field for the device in the treatment of new-born babies in whom respiration is not initiated by the usual means. Contraindications for the use of the respirator are simply those of observing the patient's reaction to the respirator. If the patient is not suffering from respiratory difficulty or is not cyanosed, there is generally no point in using the respirator. If the patient does not respond to the treatment and does not spontaneously breathe in synchronism with the machine, the artificial respiration may actually interfere with his voluntary breathing and certainly does no good. Even in the case of conscious patients who are frightened and apprehensive but badly cyanosed, we have experienced no great difficulty in putting them into the respirator. A patient can be transferred from a bed or stretcher to the respirator very easily in less than one minute by inexperienced persons. In many instances morphine has been given to patients who are already in respiratory difficulty but are apprehensive of the machine and are restless. The treatment has proved effective, especially in poliomyelitis, but obviously it is to be used only when the respirator is immediately available or when the patient has already been placed in it. In the treatment of infants who do not respond to the customary respiratory stimuli at birth, the respirator seems particularly applicable. In such instances the machine must be near at hand, preferably in the delivery room or a room adjoining. A sufficient number of patients have been treated to indicate that, for the new-born, the respirator has a very useful field.

Lymphatic Leukemia

George J. Busman and Arthur R. Woodburne, Pittsburgh (J.A.M.A., Oct. 25, 1930), report a case with a generalized follicular papular eruption. The individual lesion was a discrete keratotic papule capped by a small horny spine and surrounded by a narrow erythematous margin. The histopathologic structure was that of miliary, submiliary and early conglomerate tuberculosis. There was an associated blood picture of a typical chronic low grade leukemia. The blood showed: hemoglobin, 80 per cent; erythrocytes, 5,650,000; white blood cells, 24,400 per cubic millimeter. The differential count was: polymorphonuclear neutrophils, 12 per cent; eosinophils, 1 per cent; small lymphocytes, 83 per cent; large lymphocytes, 3 per cent, and transitionals, 1 per cent. After roentgen-ray exposure of one skin unit in divided doses to the entire skin surface, there was a rapid decrease in leukocytosis and improvement in the relative percentage of white blood cells. During and after a total of twenty-four semiweekly, weekly or biweekly injections of spleen extract, the cutaneous and blood pictures returned to normal and have remained so after eighteen months' observation. Clinically the skin lesions were rather suggestive of a generalized lichen scrofulosorum. However, the absence of grouping, the age of the patient, the failure to demonstrate active or healed tuberculosis, the true tuberculous histopathologic architecture, and a lymphatic leukocytosis out of proportion to that of general and cutaneous tuberculosis ruled out this diagnosis. The authors cannot prove whether the blood picture was the primary pathologic change and the skin expression secondary, or vice versa. In view of the fact that tuberculous structures are found not only in tuberculosis but also in many other infections, when allergic conditions are present, they believe that this case is one of a chronic, low grade, lymphatic leukemia in which the cutaneous eruption is that of a leukamid with a definite tuberculomatous architecture.

Atrophy of the Liver Due to Chinchophen Preparations

When cinchophen was introduced into therapeutics (reinforced by the trade name "Atophan"—the tophi remover) its striking effect on the elimination of uric acid captured the clinical imagination. It was soon seen, however, that Atophan belied its name for the tophi refused to be removed. The drug was found, however, to be an effective analgesic. Various esters and derivatives were advertised extensively for the benefit of those who do not like the flavor of cinchophen and for the benefit of the manufacturers who could establish a monopoly on each little change. Cinchophen became a household remedy in the belief that it could do no harm. In 1923 evidence became available that the drug was causing fatal hepatitis. Since there are many other analgesics about as effective as cinchophen in many cases, and without this insidious danger, the use of the drug should be avoided whenever possible. Unfortunately, this is not simple, for a physician may be easily led into prescribing cinchophen when he does not know it. He may avoid it under the official names of cinchophen and neocinchophen or the original therapeutically misinforming names of Atophan and Novatophan but can he be expected to keep in mind all the noninforming names which manufacturers invent? This illustrates the importance of the rule of the Council on Pharmacy and Chemistry which permits not more than one trade name—that applied by the discoverer. The rule protects those that use New and Nonofficial Remedies but can do little for others. The case is even worse for the patent medicines that are advertised to the public. While physicians, now that they have been warned will restrict the use of cinchophen and watch for the first signs of danger, cinchophen preparations may be sold to the public in mixtures of secret composition. (J.A.M.A., August 2, '30).

—————R—————

The National Institute of Health

By the act of Congress approved May 26, 1930, entitled "An act to establish and operate a National Institute of

Health, to create a system of fellowships in said institute, and to authorize the Government to accept donations for use in ascertaining the cause, prevention and cure of disease affecting human beings, and for other purposes," the Hygienic Laboratory will hereafter be known as the National Institute of Health of the United States Public Health Service. The author of this measure was Senator Joseph E. Ransdell of Louisiana.

The general purposes of the act are to provide large facilities for investigations of diseases of man and matters pertaining to the public health, to encourage research and the training of individuals engaged therein, to enable the Government to accept bequests in aid thereof, and to bring about co-operation with scientific institutions in the prosecution of research work.

Public health investigations by the Public Health Service were first authorized in 1901. Since then substantial progress has been made and many new facts have been discovered which have had an important bearing on the prevention and control of disease. The necessity for this work far outstripped the facilities for its conduct. Under the above-mentioned authority, these facilities may be greatly enlarged.

In its development the new institute will have the advantage of the traditions of the Hygienic Laboratory. In reality the Hygienic Laboratory becomes the National Institute of Health which, with enlarged facilities, will be devoted to investigations of the underlying problems not only of communicable diseases but of degenerative diseases and environmental conditions affecting health.

In aid of this work the Secretary of the Treasury may hereafter accept gifts to be held in trust and used for the purposes mentioned; the expenditures to be safeguarded in all respects as are other governmental funds. These gifts may also be used for the establishment of fellowships to encourage individual scientists. Appointments and services under these fellowships will be governed by laws and regulations affecting the United States Public Health Service. Individual ability is the most valuable asset

of a people of a country. The object is to encourage postgraduates of extraordinary ability and to aid them to follow permanently their scientific bent in the interests of humanity.

In order that those who make gifts may have a living part in the development of the institute, provision is made whereby donations of \$500,000 or over will be acknowledged permanently by the establishment within the institute of suitable memorials.

The Secretary of the Treasury has recently accepted a gift of \$100,000 offered by the Chemical Foundation, Inc., through its president, Mr. Francis P. Garvan, under the provisions of the Act of May 26, 1930, which authorizes the Government to accept donations and to create a system of fellowship, etc., in the National Institute of Health. The condition is made that the income from this fund be used for one or more fellowships in basic chemical research in matters pertaining to public health, the details of which are left to the Surgeon General and his Advisory Committee. The act provides that conditional gifts such as this may be accepted by the Secretary of the Treasury if recommended by the Surgeon General and the National Advisory Health Council.

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Dietician: "Yes, a few lettuce leaves without oil, and a glass of orange juice. There, Madam, that completes your daily diet."

Mrs. Overweight: "Thank you so much, Doctor, but do I take this before or after meals?"—Colorado Medicine.

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The Present Status of Women in Medicine

ELVENOR ERNEST, M.D., Topeka

Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

Modern medicine goes back less than two centuries to the beginning of organization and standardization. Elizabeth Blackwell in 1849 stands alone at the frontier, the first woman graduate in history and from an American school. Unrecognized elsewhere until 1858, Great Britain through a parliamentary edict admitted all women *previously* graduated from any accredited school in the United States or Great Britain to the legal practice of medicine. This gesture, however, was retrospective and it was not until 1876 that full recognition was given.

The history of women in medicine begins in the centuries before Christ. Many attained recognition and even fame, contributing to science and literature. Quinine was the discovery of a woman in South America. In Italy one injected the veins of anatomical subjects for preservation. Another made wax models. Acknowledgement must also be made for the first obstetrical forceps, and at least one surgical procedure, perineorrhaphy. A Swiss woman first removed steel from an eye with a magnet.

Periodically woman has been banished from practice, and periodically woman-kind has been compelled to accept her services, particularly in obstetrics and gynecology. Men likewise have had a varied experience in obstetrics. Queen Victoria was the first member of the English royal family to be delivered by a man. Previously, midwives prevailed exclusively, the more capable ones receiving a yearly stipend from the government as early as 1470. As late as 1919 over fifty per cent of all births in Great Britain were recorded by them. However, while popular as midwives from the time of Moses, women as physi-

cians, seem to have disappeared along about the sixteenth century, not to reappear until the early part of the nineteenth, historians generally blaming the unrest of the Reformation period. Now after thousands of years, our pioneer sister of Egypt is immortalized by our own A.M.A. in "Hygeia."

In 1850, in Philadelphia the first woman's school was chartered, graduating its first class in 1852. It is still in existence, the last of eight, the others being discontinued as coeducation became popular. Although Geneva granted the first degree in 1849 it was not until 1871 that the second American Institution, the University of Michigan became co-educational; and not until 1879 when the Pennsylvania Hospital at Philadelphia opened its doors to the Woman's Medical College were any clinical facilities available. We owe much to this fine old school maintaining its class A standard, its mixed staff selected on its merits and not on sex, and to its dean, Martha Tracy, a physician of rare ability and womanliness.

Youngest in medical organization, approximately 1820, and first to sponsor coeducation, the United States was followed through the years by all European countries, until 1900 when Germany reluctantly completed the list and now calmly accepts a medical woman member of the Reichstadt.

Madeline Bres in 1866 opened the professional doors to women in France, thereby admitting the whole University of Paris to coeducation; but not until twenty years later were internes appointed. The World War was the open sesame there, as in England and America, neither sex nor lack of insignia barring loyal service. Dr. Nicolé Gearard Mangin, Surgeon, died at her post in a military hospital. The story of unselfishness and sacrifice of French medical women is too long to be repeated here.

France recognized their worth with equal pay, placing them in that part of their National War Service corresponding to our U. S. P. H. S. Twenty-nine Croix de Guerre were awarded.

In the Scandinavian countries, including Finland, we find absolute equality of opportunity, educationally and in practice, since the early seventies. Russia, Belgium, Holland, Greece, Mexico, and Austria as late as 1897, finally adopted coeducation.

Switzerland in 1864, France in 1867, Italy 1876, England 1877, and Scotland in 1886, these five with America, pioneers, have justified their faith by producing a goodly number of outstanding medical women at home and abroad.

Spain this year appointed her first female municipal physician.

Staid old conservative England we may well claim has been and still is our storm center and battling ground: producing its Garrett Anderson, Jex Blake and Mary Sharlieb: guarding its precious portals against these pioneers and finally conferring the feminine Dame of Knighthood on them and many others. All within the period of sixty years: Dame Sharlieb, crossing the bar last year, left an undying record in India and England. She continued in active service to the end. Thus the span is so short that a large per cent of present day women hark back to the beginning.

Prior to the World War, all provincial schools, Canadian, Scottish, Welch, and Irish, became coeducational and still continue so. Curiously, the University of London, the first to admit women, in the last year has discontinued the general granting of medical degrees, confining them to its one exclusively feminine school, the London School of Medicine for Women, and to the University College Hospital Medical School, limiting the number in the latter. Twelve medical schools are incorporated in the London University. Eleven previous to the war were available to men only. Seven of these became coeducational and now have reverted to their pre-war exclusiveness. While the University still wishes to continue its war-time policy, yet through the flexible affiliation with these

schools who retain their "separate legal existence," it becomes a very uncertain problem of control since they are all "old schools with long traditions." It must be noted that there still exists unrestricted facilities for preclinical education. The six year period required to attain a degree in medicine is equally divided between the strictly didactic and clinical subjects. The first and second medical examination passed—the student enters a Hospital Medical School to complete his work leading to the English Degree M.B. B.S. Here lies the crux of the situation.

The investigating committee of the University of London reporting says: "We are of the opinion that no valid objection can be maintained against the system of coeducation for men and women medical students"—that "adequate faculties for the education of women would not be provided in any hospital, or medical school, unless resident medical and surgical appointments were open to men and women on equal terms." It is conceded by the various deans that the "work and attitude of women students were uniformly favorable:" that "coeducationally trained women were more efficient—more considerate." Objections: "necessity of providing special accommodations for a mixed staff; the difficulty of teaching mixed classes in some subjects; wastage accruing through marriage." The committee's final conclusion: "We are unable to see any valid arguments against the provision of coeducation in medicine."

British women unlike Americans are closely associated in their work and have established many large and well equipped hospitals entirely staffed by their own sex; notably the Marie Curie Radium Research Hospital and two fine hospitals in London for women and children. Drs. Chadbaum and Martindale are among the nationally acknowledged surgeons, the latter having a place on a recent A.M.A. program, the guest of the Society, Christine Murrell, serves in the British House of Delegates. Jane Niven won the 1925 Prunton Memorial Prize for the student doing best work in a graduating class. Lady Barrett with the

title "Companion to the Queen" headed the Obstetric and Gynecologic section of the British society in 1926. Elsie Ingles organized the Scottish Women's Hospitals, whose woman staffed and supported units were so gratefully received by France, Serbia, Troyos, Salonika, Corsica, Ostrava, Russia and Sallaches. Fourteen hundred English women died in service, seven of them physicians including the remarkable Miss Ivens, (English women seldom use the term doctor) head surgeon with a Scottish Hospital unit operating a French Military Hospital, and caring for 10,861 war victims, of these 7,204 were surgical cases with 184 deaths; 173 from gas gangrene. Later we find her in the Villiers Cotterets unit and eventually receiving with twenty-two other women physicians and surgeons the Croix de Guerre. Toward the end of the war a thousand bed hospital was established in London by the Government and staffed entirely by women; just women without crossed swords, or maple leaves, or bars, or stars, or anything else in their coat lapels, and not even a chip on any ones shoulder. In the development of medical missionary service in China and India our English Sisters easily lead with Sharlieb, Kugler, Leonard, Stone, Kahn, and many others devoting their lives to this work. In both England and Canada a woman heads the Maternity and Child Welfare Departments. In Australia, Jane Greig is Chief Medical Inspector of Education. Medical women occupy positions as teachers and heads of departments in medical colleges, are officers in the "Home Office," and in the General Post Office. There are many local health officers and school doctors. In fact more of these positions are available than there are applicants.

American women, widely separated territorially, have associated themselves more generally with their local medical units and their progress in the profession has been rather a matter of fact. It is interesting to note that Mary Putnam Jacobi in 1872 was the pioneer "professor" in a man's school, and the first of her sex to become a member of a County Medical Society. Sara H. Steven-

son in 1876 achieved the honor of membership in the A.M.A., and Martha Welp-ton, of California, fifty years later sits in the House of Delegates. Dr. Helen Johnston, of Iowa, served several years as Associate Editor of the Journal. Five women are included on the Mayo Staff. A woman is president of the Association of Anesthetists of the United States and Canada. There are fifty-eight Fellows of the American College of Surgeons, two of them Canadians; twenty-five Fellows of the American College of Physicians with five Associates, and thirty in the College of Ophthalmology. The Health departments in practically all of the leading lay magazines are edited by Medical women.

Dr. Blanche M. Haines, Director of the Division of Maternity and Infancy in the Department of Labor reports sixteen states with women physicians as directors. Seven of us served as acting Assistant Surgeon U.S.P.H.S. during the influenza epidemic in 1918-1919. Many are now employed in this department ranking with men. In 1893 there were 133 women on civilian hospital staffs—they now are generally accepted everywhere on the same basis as men.

In 1917 there were sixteen coeducational schools in the United States with mixed faculties; today there are sixty-two coeducational, four for men exclusively and one for women exclusively. The nine Canadian Schools admit both sexes and six provide internships. Here we find *our* stumbling block, nine of our States (Arkansas, Delaware, Florida, Georgia, Kentucky, Montana, North Carolina, Utah and West Virginia) have internships for men only. Of the 627 A.M.A. approved hospitals in 1929, with 5,422 internships, 182 were provided for women. Seven hospitals had internships for women only. Of the 297 hospitals approved for Residencies in Specialties, fifty-two provided internships for them.

England has in a measure solved her problem by establishing a large number of women's and children's hospitals. The new Chicago Women's and Children's Hospital, and the new 430 bed New York Infirmary are American leads in that direction. The purely technical part of the

study of medicine presents no barriers but since a student may no longer serve an apprenticeship in a doctor's office, where shall she get her clinical training? Only a little while ago even Class A schools each year turned out a fresh batch of fledglings with untried theoretical wings and internships for male nor female bothered us not at all. The old time dispensary of inconstant tutelage and recordless clientele furnished our only background. We can only regard this problem as another phase in the development of coeducational medicine; one that time will solve.

The various arguments against women in the profession concerning the "cost of mixed residencies", "wastage through marriage," "physical handicap," "each woman admitted keeps one man out," etc., are best answered in terms of accomplishment by outstanding women in surgery, scientific research, the specialties, literature, the lecture platform, and as heads of colleges and hospitals, A.M. A. Sections, government offices and elsewhere. The Dicks, the Sadlers, the Kroghs, answer for "wastage" and it seems quite logical that a "little leaven" in the way of a medically educated wife might "enlighten the lay woman's 'loaf' a bit in this age of cults. "And thereby hangs a tale"—better a few more professionally trained women and fewer faddists.

There are twenty-nine Medical Women's organizations in the United States. Seventeen of these are affiliated with the Medical Woman's National Association, a group organized in 1915 "to bring Medical women into association with each other for their mutual advantage, to encourage social and co-operative relations within and without the profession and to forward such constructive movements as may properly be endorsed by the medical profession." It became necessary to incorporate a few years later in order to handle the ever increasing funds, upward of \$3,000,000, of the war activities committee. In 1919 the M.W.N.S. was instrumental in forming the Medical Women's International Association, which now includes twenty-two countries.

Dr. Esther Lovejoy of Oregon was its first president and here we women of America pause to praise our country woman, the chairman of a most outstanding woman's group, the American Women's Hospitals, a committee of the M.W.N.A. organized primarily for war service, but in continuous operation for the past twelve years, staffing and operating a total of seventy-two hospitals, one of them with a 2,600 bed capacity for tracoma sufferers, at Alexandropol, in connection with the Armenian Orphanage; 327 clinics, quarantine stations, camps for pestilential diseases, food and clothing depots, health and child welfare centers, maternity service and nurses' training schools. Over 1,000 women physicians have been registered for service.

The story of "humanitarian achievement" as told in Dr. Lovejoy's *Certain Samaritans*, a history of A.W.H. activities, is, she says, "the outgrowth of the wartime desire of American medical women to do their share of work that they were qualified to perform." They received neither recognition nor ensignia from their own country, there being no law, precedent nor government consciousness covering their status. In July, 1918, the first fully equipped unit was inspected and accepted by the French Government as military "Hospital No. 92 bis" and installed in the Luzancy Chateau. In the same location a hospital, dispensaries and ambulance service were maintained for civilian relief. Typhoid, scarlet fever, diphtheria, and influenza, devastated the country, cold and hunger adding to the misery of the returning refugees, and to the responsibility of our women. From the Red Cross in October came the order "send at once two more A.W.H. units and one per month hereafter until six are floated." After war conditions in other European countries; Serbia, Greece, Russia, Turkey, Jugo Slavia, the Caucasus, Thrace and Anatole, and the earthquake in Japan developed heroines in physicians and nurses, and taxed the strength and resources of the A.W.H. to the limit, but always they carried on. Practically all of the Near East Medical Relief work

has been done by them. Dr. Mabel Elliott of the A.W.H. was the Medical Director of Near East Relief in the four years of the horrible Turkish slaughter. She established the largest relief orphanage the world has ever known at Alexandropol. Forty thousand Armenian children, most of them afflicted with tracoma, were under the care of our women for three years. Following the Turkish atrocity at Smyrna 1,500,000 refugees fled into Greece, dirty, starved, destitute and diseased. Dr. Olga Statsny, lone A.W.H. physician in charge of the barren quarantine island of Macronissi, cleaned up 15,000 of them in five months, fighting typhus, smallpox, tracoma, and filth beyond description. Dr. Effie Graff, and Mabel Phillips in their Russian clinics and health centers have 20,000 children registered. Dr. Ruth Parmalee, director of activities in Greece, devoting her life to the betterment of women and children reports 60,000 patients cared for in that country alone last year. Dr. Etta Gray and her unit treated 16,000 cases of tracoma in the Balkins. So many more have accomplished the seemingly impossible, working under physical and monetary handicaps, that it seems almost unfair to select a small group of representatives. Dr. Angenette Parry and many others are working in the service without pay. Salaries have always been nominal. Fifty-nine decorations have been bestowed upon our members of the A.W.H. during their twelve year's activity.

Two factors enter largely into woman's problem in medicine—the relatively small proportion of women to men and the slow increase in their number. In 1910 the A.M.A. recorded 124,615 men, and 7,387 women. In 1917 there were 141,090 men, and 5,518 women. In 1929 there were 154,830 men, and approximately 8,000 women. In September 1929 over 15,000 students sought entrance to American medical schools, whose limited capacity permitted the admission of only 6,000. The percentage of women to all medical students for 1929 was 4.43, but the average for the last ten years has not been above four per cent. While there seems no valid excuse for

discontinuing our present coeducational policy, yet a limitation based on percentage is something to think about. Admitted to practice, success in medicine is still largely attributable to adequate qualification and good salesmanship. But isn't this equally a male axiom?

A 1929 SUMMARY OF KANSAS WOMEN FOLLOWS

There are fifty-five active in practice and institutional work. Of these, 46.8 per cent belong to their county societies, a substantial increase over the 30.7 per cent of 1917.

Two are on the staff of a State Institution for Insane.

There are three on the staff of the State University Medical School, one anesthetist, and two dispensary assistants. On July 1, 1930, the first woman intern begins her service.

Two are on the teaching staff at the State Agricultural School. There are two teaching in the University.

One A.M.A. accredited general hospital has one woman intern.

There is one woman acting as County Health Officer.

There is one woman in the State Board of Health.

One is secretary of a County Medical Society.

In sixteen cities of the sixty-three having accredited general, church, or municipal hospitals, there are twenty-two women on their staffs. No private hospitals are included in this survey.

Four out of a class of forty-nine will graduate from the State University School in 1930.

SOME INTERESTING DATA

The total number of women graduated from the Kansas school is seventy; thirty-seven of these from the Kansas Medical College which merged with the University School in 1913, and thirty-three since. In the Kansas Medical College three departments, Bacteriology, Materia Medica, and the Dispensary (chief) were headed by women. Two others were assistants. There have been four assistants in the University School since.

Eight women have served on the staffs of State Hospitals for insane.

There have been three on the State Board of Health.

Three have served as Chief of Child Hygiene, and three in the Public Health Car Service.

One State Bacteriologist.

One officer in U.S.P.H.S. Wartime service.

—R—

Treatment of Bronchial Asthma

ALLEN OLSON, M.D., Wichita

Read before the annual meeting of the Kansas Medical Society, at Topeka, Kan., May 7, 8 and 9, 1930.

Bronchial Asthma has until comparatively recent years been considered as one of the human ailments from which only temporary relief could be had. If the patient was an adult various drugs were tried, and he was often advised to change climate; or, if a child, his parents were assured that he would outgrow it.

The asthmatic patient will often give a history of having hay-fever, hives, eczema, or angio-neurotic edema, and if the family history is carefully taken, as pointed out by Balyeat,¹ we will usually find some members in the family tree who had some of the allergic diseases. In studying the allergic individual, Balyeat points out from his work that the specific sensitivity is not inherited but the ability to become so is inherited. That is, a boy may have asthma from ragweed, and his father have eczema from wheat. Balyeat² points out that of a series of one hundred cases of asthma in children seventy-three per cent gave a positive family history of either hay-fever or asthma. There is a definite linking up of the various allergic diseases and the various symptoms are due to the sensitivity of the particular tissue to the foreign material.

There may be one or numerous factors which will precipitate an attack of asthma, and in order to successfully treat an asthmatic these must be determined as far as possible. In children less than two years old the attacks are usually due to the protein in milk, eggs or wheat. It is often discovered empirically by the removal of one of the foods separately until relief is obtained. As the child grows older, before asthma develops, foods play a less though impor-

tant part in the causation of asthma. If a person is sensitive to some food that does not exclude the possibility of him being sensitive to some pollen, animal emanation or other dusts. These may be secondary factors which will be an added stimulus in producing asthma whenever he comes in contact with them. In the treatment, it is important to remove the secondary as well as the primary factors, to obtain good results.

Psycho emotional states as nervous strain, or nervous worry may be an important secondary factor, as pointed out by Baldwin.⁴ He cites a case in which the patient was sensitive to horse dander and by elimination and injection of horse dander protein had greatly improved. During a period of six weeks when his father was seriously ill the patient began to have asthma again; but these attacks terminated shortly after the relief of the nervous tension that came with the death of his father. He cites another who was sensitive to milk and dust who was greatly relieved by elimination and specific treatment who again became asthmatic during the time she cared for her dying mother.

Cooke³ states that although almost all cases of bronchial asthma give as the reason for their attacks a large number of causes but he believes they act only in those with whom broncho-spasm has become a habit as a result of some previously manifested allergic reaction. He believes that a hereditary disposition toward allergy exists and the basis is a constitutional factor. Some chronic upper respiratory infection may be enough to stimulate the already irritated mucous membrane and precipitate an attack.

Numerous drugs have been used for treatment and I will briefly mention a few:

1. Epinephrin-adrenalin has been used very successfully in giving prompt temporary relief. It is best administered in seven and one-half minim doses hypodermically, and if no relief in ten to fifteen minutes repeat in the opposite arm. Massage at the point of injection will prolong the action.

2. Ephedrine. This drug has been added to our treatment of asthma by K. K. Chen⁵ of China. Its action is probably due to the stimulation of the vegetative nervous system, stimulating the sympathetic fibers and opposing the para-sympathetic and relaxation of the bronchial musculature. Ephedrine has the advantage over adrenalin in that it may be given by mouth. Its action is not as prompt as that of adrenalin but by giving three-eighths to three-fourths grain at the beginning of an attack of asthma it is frequently aborted. The immediate undesirable effects are nausea, palpitation, vomiting, tremor, nervousness and sleeplessness. It has been my experience that after prolonged use of ephedrine its action is markedly impaired if not lost entirely. As an example:

Case One. Male. Age thirty-one. Came in complaining of asthma of two years duration. At first his attacks of asthma came only at night, but later had them both day and night. He was taking from two to six ampules of adrenalin hypodermically daily; this always gave prompt relief. The past history was negative. The complete physical examination and routine laboratory work was negative. The skin tests by the scratch method to pollens, bacteria, animal emanations, and foods, were negative. He was given ephedrine three-fourths grain three times daily with immediate relief. He continued the use of ephedrine for two months with good results. However, his asthma recurred at this time and even though the dosage was increased until tremor, palpitation and nervousness were present, he did not get relief.

Case Two. Male. Age sixty-five. The patient came in complaining of asthma and hay-fever. He gave a history of perennial hay-fever for several years. The asthma had been present for past two and one-half years. The asthmatic attacks came on either day or night, were not seasonal and not relieved by change in climate. He had taken several serum treatments without relief. His only relief was obtained by use of adrenalin. The past history was negative. The physical examination and routine

laboratory work was negative. He was tested to all pollens, bacteria, foods, animal emanations by the scratch method and found negative. He was instructed to take ephedrine three-fourths grain three times daily, which kept him free from asthma and some relief from the hay-fever for a period of three months. Upon writing to him, he informed me that after three months the ephedrine did not give him relief.

The above cases not only show the loss of action of ephedrine but also show an error which I was making in diagnostic tests at that time. That is, the confidence I was placing in the scratch method alone for diagnosis. This will be discussed more in detail later.

3. Calcium. Calcium has been used quite extensively, but in my experience has been of little value.

4. Iodides. The value of iodides in asthma is due to the ability of the salts to liquefy the mucus and increase the exudation of the bronchial mucous membrane. They may be used in conjunction with other treatment for the same purpose.

5. Specific desensitization and elimination. It is impossible to discuss desensitization without elimination, as they are employed together in treatment. By specific desensitization is meant the injection, by gradually increasing dosage at proper intervals, of the specific pollen or substance to which the patient is sensitive. The desensitization is usually limited to the pollens.

Before desensitization can be carried out the skin tests must be done to find out to what substance the patient is sensitive. As a rule the patient is sensitive to several things, and the younger the individual the more numerous the things.

The method used for testing is both dermal and intra-dermal, as outlined by Balyeat.⁶ The scratch method is the one usually employed and I believe accounts for many of my failures to identify the specific substances. The intra-dermal is much more sensitive and by the use of it one will often pick up positive reactions which would otherwise be passed. It is of greatest value in the detection of

reactions to animal emanations, pollens, egg, wheat, and milk.

The asthmas which are seasonal in type, found to be caused by a specific pollen, are very successfully treated by the particular pollen. However, this type is not the one commonly seen. Even though they are sensitive to particular pollen, they often have asthma the year around and complicate the picture. This is easy to understand when one stops to think that the various pollens, during the summer, blow into the house and the rugs, drapes, davenport and curtains are loaded with the foreign material, and the symptoms are exaggerated when the sweeper is run or at general house-cleaning time. This picture is further complicated when the skin tests show the individual to be positive to several foods, besides pollens and animal emanations.

Case Three. Male. Married. Age thirty. Gave history of asthma for ten years. It is not continuous. May be free for two or three months at a time, then recur either winter or summer and be present for several days requiring adrenalin for relief. However, eight months ago it became worse and required adrenalin almost every night, until August when his wife went on a vacation for four weeks, during which time he was free from attacks.

SKIN TESTS

Dog hair	4	plus
Horse dander	2	plus
Duck feathers	2	plus
Chicken feathers	2	plus
Cattle hair	1 $\frac{1}{4}$	plus
Orris root	2	plus

On further questioning, he recalled the dog was not at home during his wife's absence. On elimination of the dog, feathers and advised his wife to use a non-orris face powder, the patient has been free of asthma.

Case Four. Boy. Age twenty-five months. Complaining of asthma. Patient was breast-fed. Well until nine or ten months old when was put on Eagle Brand milk and breakfast cereals, at which time he developed asthma. Since then has had asthma several times each week, which has required adrenalin for relief. The asthma is worse in summer,

especially about August fifteenth until September first, and also worse on dry windy days. Family history, cousin has hay-fever, another cousin hay-fever, grandmother migraine headaches.

SKIN TESTS

Wheat	4	plus
Milk	4	plus
Horse dander	2	plus
Cat hair	2	plus
Timothy	1	plus
Giant ragweed	4	plus
Western ragweed	3	plus
Small ragweed	3	plus
Water hemp	1	plus
Oak	1	plus
Chicken feathers	2	plus

In this case we have several factors to consider. First, his asthma was probably precipitated by the supplementary feeding when milk and cereals were started, and further increased by the chicken feather pillows upon which he was sleeping. Then, August fifteenth when the ragweed pollen became a causative factor the symptoms are again aggravated. The patient is not in contact with cats or horses so we can disregard this positive. Also, waterhemp is scarce in this locality, so can be ignored. Timothy and oak are only slight reactions so will be disregarded in treatment. Then for treatment all wheat and wheat flour foods were eliminated from the diet, also milk except in the form of butter. Kopak pillows were substituted for feathers, or use none at all. He was instructed to be very careful about the dust from the house, fine dust of any kind, dust from old clothing or books, or lint of any kind. Also not be near any straw stack dust. He was also given pollen extract for the three ragweeds. Upon this line of treatment the patient has been free from asthmatic attacks.

Case Five. Female. Age forty-three. Came in complaining of asthma of twelve years duration. At that time she was living in Wichita. Since then she has had it at irregular intervals, usually worse at night, but is present during day also. Requires adrenalin for relief. Family history, father had asthma. Past history negative.

SKIN TESTS

Cattle hair	.....1 plus
Chicken feathers	.....1 plus
Cat hair	.....1 plus
Timothy	.....1 plus
Tomatoes	.....1 plus
Cantaloupe	.....1 plus
Milk	.....1 plus
Egg	.....1 plus
Cheese	.....1 plus

The patient was instructed to substitute Kopak pillows for feather and get rid of the cat, and because of the weak reaction to foods, she was placed on the strict elimination diet as advocated by Rowe.⁷ On this line of treatment the attacks of asthma were completely controlled.

The elimination diets as advocated by Rowe⁷ are not used exclusively for the treatment of bronchial asthma but for any symptoms due to food allergy. In his series of one hundred seventy-five patients studied, the most common foods giving positive cutaneous reactions were: wheat, egg, milk, chocolate, tomato, cabbage, orange, and potato. However, as he points out, patients may be sensitive to any food or condiment. If a food allergy is suspected and the skin tests are negative the "elimination diets" are then used. In these diets the foods are excluded to which patients are most frequently sensitive, and if symptom free, other foods are gradually added to the diet, and if symptoms develop this food is excluded.

In conclusion, the best method of treatment then depends upon the complete removal of the foreign material as animal emanations and dusts. Also the elimination of the specific foods and last the desensitization of the patient to the pollen to which he is sensitive. Any one of the three may be sufficient to relieve the asthmatic, depending upon the cause, or it may be necessary to use a combination of two or three in the treatment.

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**Estimation of Kidney Function—
Indications and Importance**

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Estimation of renal function forms an important element in the diagnosis and prognosis of almost every disease of the urinary organs. And yet, as important as it is, no method has been devised which is wholly accurate or all embracing in its application to the problems of kidney function. To attempt to evaluate the many methods advanced would be time consuming and impractical.

When a machine is in need of repair, unit parts are brought and fitted and fastened into the place of the worn out parts. The result of doing this gives two things, a reclaimed machine, and last, but not least, a residue of old material torn away and the scraps of new material unused.

In the human body the simple proteins of our foods, for example, are by process of digestion reduced to amino acids. Some of these amino acids are deamidized by the action of bacteria, or enzymes of the alimentary mucosa. These products then enter the blood of the portal system partly as amino acids, partly as ammonia and ketonic acids, and possibly as other types of decomposition products not yet isolated or recognized. In the blood they circulate, dissolved in the plasma, and as they pass the various tissues, each tissue removes, it is believed, those amino acids which are necessary to build up its own proteins.

Biochemistry in elaborate detail shows how these products are synthesized into cells and how broken down material and decomposition products, arising from this process, also become dissolved in the blood plasma.

Thus, as in the machine repair, where waste products must be disposed of by some individual, so must the waste prod-

ucts of tissue building and destruction be disposed of by the kidneys.

The kidneys, usually two in number, are composed of units, each unit made up of a glomerulus and its tubules; the glomerulus acting as the filter and the tubules as a reabsorption mechanism. Disease may attack the glomerulus either crippling or destroying it, the tubules may suffer in a like manner. Thus disease may alter or destroy many units of the kidney but until the number destroyed is quite large no external evidence of renal change is noted, because only a few units working at a time are necessary to maintain kidney efficiency when demand is slight.

That the kidneys are of paramount importance in water metabolism is accepted and their reaction to ingestion of liquids forms a basis for some of the kidney function tests. Also, the accumulation of certain of the bi-products of body repair in the blood stream, namely, those shown by blood chemistry, give us an idea of whether the kidneys are carrying on their function properly or not. Elimination of dyes injected into the body, elimination of urea ingested by mouth, ability to concentrate and dilute the urine under various circumstances, make up the basis of most of the other tests.

Albarrans polyuria test, now practically unused, was indirectly influenced by the body colloids, either not being saturated with water, or being influenced by previous exercise to take up more water thus becoming supersaturated.

Schlayers test for renal function consisted of 20 grams of lactose in 20 cc. of water injected intravenously. In normal individuals 90 per cent of the sugar was recovered in the urine in four or five hours and then the urine would become sugar free. If sugar was found in the urine after that time and the recovered amount was below 70 per cent it was supposed to show impaired glomerular function.

Mosenthal's concentration test is sometimes done as follows: Patient voids at seven a. m. and discards specimen; collects all of urine for rest of day with a voiding at seven p. m. In another container urine from seven p. m. to seven

a. m. is collected. The day urine specific gravity is about 1.009 normally and at night 1.018. The variation between the two should normally be about nine points difference. Salt is freely given with a definite test diet for the three meals.

The chlorides eliminated should be from 8 mg. to 15 mg. and if below 8 mg. renal function to handle solids is impaired. Day urine is two or three times by volume that of the night specimen.

The urea test consists of ingestion of fifteen grams of urea after emptying the bladder. One hour later a specimen is voided, one hour later the second and one hour later the third. No fluids have been allowed since ten p. m. night before.

The test shows normal concentration of urea, if, in the second or third sample the percentage output rises to two or three per cent. If lower than 29 it indicates an impaired renal function.

The dye tests consist of phenolsulphonphthalein, indigo carmine, methylene blue and others, but of these the phenolsulphonphthalein and the indigo carmine are the most important. The French laid much stress on the freezing point of urine under various diseases but it is very impractical.

Any function test may be misleading, especially the dye tests because, if kidney stress is mild or not continued over a long period, the diseased kidney may show a good function.

The ideal kidney function test would be one that placed a long stress on the kidneys to be tested, say three or four days duration, which, necessarily, would call in the reserve of the kidneys and demonstrate the true coefficient of renal activity, namely, kidney flexibility. In other words, as long as the necessary physiological minimum is maintained, and no added stress comes into play, a normal P. S. P. might result. This would not mean that a normal kidney flexibility was present because only the last one-fourth of the total units would function enough to give this result. But if the stress and kidney load was added until it began to exhaust the acting kidney units, and no others were in reserve to be brought into play to carry on the

added work, a renal failure would be demonstrated.

The importance of knowing the individual renal function of a patient upon whom a nephrectomy, nephrotomy or nephroplexy is contemplated need not be overly stressed because in this day and age it is always done. Also in prostatism where the back pressure in the kidney pelvis, due to obstruction to bladder out flow, has reduced renal efficiency, it is necessary to know something of the renal reserve which will be called upon when the prostatectomy is done.

All surgeons are anxious to keep their mortality rates down within uncriticizable limits. It is to eliminate the unfavorable surgical risk that function tests are resorted to. Not that they alone are to make our decision, but to aid us in our final analysis. We may proceed then in the following manner to evaluate; the blood chemistry, consisting of sugar, urea, uric acid, creatinine, non protein nitrogen and CO₂ along with a series of blood pressure readings, tell us what the kidneys have been doing under past activities. A Mosenthal may be done to show the power to concentrate urine. Then we may inject intravenously at one time 1 cc. of phenolsulphonphthalein and 250 mg. of creatinine. Appearance time of the P.S.P., normally three to six minutes is noted, and two specimens of fifteen minute intervals are collected. The first fifteen minute interval usually returns 20 to 30 per cent of the dye and the second fifteen minute interval 15 to 20 per cent of the dye, with a total of 40 per cent or more for the thirty minute interval. The creatinine output in the first fifteen minute interval may be three times that of the fasting period ten minutes before its injection. If ureteral catheters are in place individual functions may be done.

The indigo carmine method is more rapid, requiring six or seven minutes. It consists of injecting 6 gm. of indigo carmine intravenously, and with a cystoscope, watching the ureteral orifices and checking appearance time on both sides and visual estimation of the dye concentrated at the ureteral orifice.

But, gentlemen, after all of the various

function tests are tabulated and evaluated, the blood chemistry checked, blood count, Wassermann hemoglobin, x-ray, history and physical examination officially accounted for, a decision to act must be made.

That indefinable something known as surgical judgment is acquired by experiences of the passing years. We younger men in this fascinating practice of medicine are trying to profit by the experiences handed down to us by our more experienced confreres. But, singly, or together, we are trying to do the things most conducive to the speedy recovery of our patients and that stamps us the true physician and surgeon.

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The Use of Intravenous Glucose in Neuropsychiatric Conditions

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The non-operative control of increased intracranial pressure has, until recently, been a serious problem confronting neurologists and neurosurgeons. We have, for years, tried to combat this pathological-physiological condition, by one of two operative means—either by subtemporal decompression, or by spinal puncture. But these two methods have their distinct limitations. The first is a major surgical operation, and, while the operation may be successful, frequently the patient dies. The latter is never applicable to cases with a high intracranial pressure, because the withdrawal of large amounts of fluid in these cases may produce the very thing we are trying to avoid by reducing the pressure, namely, medullary herniation and death of the patient.

Every one skilled in neurology knows that this is the fate of nearly all the cases who die from a disease entity producing increased pressure. Tumors of the brain, traumatic concussion, many cases of meningitis, cerebral thrombosis

and hemorrhage, and many other conditions that produce the syndrome kill the patient, because the pressure above forces the medulla and the cerebellar tonsils into the foramen magnum, press upon the vagus nucleus, and the patient dies of respiratory failure.

Another condition that is equally as serious is ganglion cell death, due to both pressure and lowering of nutrition. This produces the symptoms of paresis, encephalitis and poliomyelitis. This type of pathology is entirely within the substance of the brain itself, and cannot be helped by any operative interference.

Therefore, surgery—our only method of attack for many years—had three distinct limitations. First, decompression is, in many cases, as dangerous as the disease itself, and, while many lives are saved by this method, many more should have been saved. Second, spinal and cisternal puncture are contraindicated in the very types of cases that need relief the most. Third, neither procedure is applicable to that type of case which did not always die, but was left crippled and maimed for life, due to ganglion cell death.

The need of some medicinal method for controlling this process was answered by Weed,^{1,5} who stumbled upon a method while experimenting on the chemical changes in the spinal fluid following various intravenous injections. He found that hypertonic solutions lowered the spinal pressure and removed fluid from the nervous tissues, while hypotonic solutions reversed the process. He used two types of solutions—sodium salts and glucose.

This discovery was soon applied clinically, and magnesium sulphate was added to the list. However, the latter and the sodium salts were soon rejected, as it was found that magnesium sulphate, in doses that were large enough to produce the desired effect, was frequently very toxic,² and the sodium salts—chiefly sodium chloride—became fixed in the tissues and reversed the osmotic process, and after it had been used for several days, caused the exact condition it was used to combat.

Glucose, which is easily metabolized,

and when properly buffered, is never toxic, seems to be the best solution for the purpose. The buffering is the most important, and, when properly done, removes all the elements of danger from the use of this treatment. No unbuffered glucose solution should ever be used.

The amount of glucose solution used, depends on the severity of the condition and the speed of the response to treatment. As much as 250 gms. of glucose may be used in twenty-four hours, but usually 100 to 150 gms. is sufficient. The speed of injection has been very well worked out; if more than 25 gms. of glucose be given in 20 minutes, there will be a considerable spill-over through the kidneys, and much of the effect of the injection lost. The percentage of the solution usually used is 50 per cent; 25 per cent has been recommended by some observers, but this requires more water than 50 per cent, and, as the effects of this treatment are due to the reduction of the fluid in the tissue, and its return to the blood stream, the less water the patient uses, the better the results. Therefore, it is more logical to use 50 per cent rather than 25 per cent or less. The solution should always be given at body temperature, and insulin should not be used, as it has no effect on reducing reaction, and, as it hastens metabolism of the glucose, it reduces the effect of the individual dose.

There are a great many conditions to which this type of treatment is applicable. These may be divided into three classes, based upon the type of fluid increase. While this is not a perfect grouping, it has some prognostic value. The best results are obtained in those cases in which the fluid is in the substance of the brain or spinal cord, rather than in those in which the major amount of fluid is in the interspaces surrounding the brain. While there is never a case in which one factor is present without the other, nevertheless most diseases showing this type of pathological physiology show a preponderance of one or the other.

Examples of these two conditions are, serous meningitis and toxic encephalosis. In neither is there any infective agent in

the nervous system, but both are reactions to an outside agent. In the first, there is usually nothing but an increase of cerebro-spinal fluid, with little edema of the brain. Toxic encephalosis is a relatively newly-understood pathological picture. It occurs, to a more or less degree, in every toxic condition, either exogenous or endogenous. It is especially common in children and is seldom recognized clinically, unless the practitioner is on the lookout for it. I have seen cases following septic abortion, septic sorethroat, malnutrition, ether anesthesia and other conditions, in which the body metabolism is changed by the introduction of toxins. Bacterial toxins, heavy metals, split proteins and alcohol are the most common etiological factors. The pathology consists of a swelling of the endothelial lining cells of the small vessels of the brain, with resulting decrease in nutrition, followed by ganglion cell death, through anemic degeneration, unless the process is halted, and the patient will either die or be left permanently crippled.

The symptomatology consists of headaches, malaise, lethargy—which gradually goes into coma or death, in the severe cases. The blood pressure is low, the temperature low or high, depending upon the stage and the causative agent. In severe cases, it is usually high, respirations are slow, and death usually results from respiratory failure. There are usually few motor changes in the early stages and these may or may not develop.

Alcoholic "wet brain" produces a combination of the two conditions and may produce either death, psychosis or mental deterioration, as a sequela. Meningitis may likewise produce this combined fluid increase.

An additional factor in any of the above groups is some element normally foreign to the central nervous system. In this category we may put tumors, gumma, exudates in meningitis and encephalitis, and blood, resulting from trauma or spontaneous hemorrhage. These factors, of course, modify the simple fluid imbalance, and can only be moderately controlled by this treatment.

Let us ignore the foreign substances and discuss the disease entities from a fluid increase alone.

In the first group we have the various types of meningitis and some traumatic conditions. It has been shown that glucose is a valuable adjunct in the treatment of all forms of meningitis. Haden³ first reported its use in 1919, in a small series, and it has been used rather extensively since then as an adjunct to specific therapy. In all forms, the recommended dose is from 50 to 150 cc. per day, of the 50 per cent solution.

The traumatic manifestations do not seem to be so clearly understood. Severe trauma to the head may produce hemorrhage from ruptured blood vessels, or it may produce an outpouring of fluid. Both lead to increased intracranial pressure; the first, indirectly, by blocking the pacchionian system, and the second, by a combined edema. The latter usually responds very well to glucose therapy, but the former demands surgical interference—either repeated spinal punctures, to draw off the blood from the subarachnoid spaces, or craniotomy—if the hemorrhage can be localized. All of the blood must be removed, if possible, as it may cause the death of the patient, or lead to psychosis, neurosis and epileptiform convulsions in the future, as the results of the adhesions formed by it. This subarachnoid increase of fluid may be aggravated by an intracerebral edema, which can only be reached by intravenous glucose. The dose in these conditions depends on the severity of the case and the response obtained. I believe that, if needed, as much as 500 cc. of the 50 per cent solution may safely be used.

The second group in which the brain is chiefly affected, either with or without exudate, include paresis, encephalitis, poliomyelitis and toxic encephalosis. Paresis is too chronic a condition to get much benefit from this type of treatment, as I shall explain later. In the other three conditions, it is my belief that intravenous glucose is a most valuable therapeutic agent. Most of the symptomatology arising from these conditions is caused by vascular occlusion of the small nutrient vessels. This occlu-

sion is caused both by endothelial swelling and, in the infectious states, by perivascular infiltration of exudative materials. The chronic phases of these conditions are not benefited by glucose therapy because the damage has already been done, but in the acute phase glucose removes the edema and the exudate, allows better nutrition to the individual cell, and decreases the pressure which has an injurious effect on these cells, and will prevent the loss of many cells commonly killed by these conditions, with resulting paralyses—motor, sensory and psychic. Not only will these results be prevented, but the lives of many patients be saved who now die. Glucose is not a "cure-all" for these conditions, but should be used as an adjunct to specific and hygienic treatment. The dose is usually small—50 to 100 cc. in twenty-four hours.

The treatment of alcoholism by this agent has been put on a more scientific basis than ever before. Alcohol acts as a toxin on the nervous system and produces two types of pathology. First, it leads to an acute toxic reaction, and secondly, as a result of this reaction, there are chronic changes—as the result of neuron death—either in the ganglion cells or nerve fibers. These changes take place either in the brain, cord or peripheral nerves; this latter is a chronic manifestation, while the former is an acute condition.

Acute alcoholism, if carried too far, produces a stupor from which the patient usually recovers, providing alcohol is stopped soon enough. If, however, the patient indulges in alcohol in large amounts, over a long period of time, the brain will react and there will be produced the alcoholic "wet brain," which leads to delirium tremens. When this condition is complicated with a peripheral neuritis, it is called Korsakow's syndrome, or psychosis. This latter manifestation is usually more severe than simple delirium, but both may so cripple the mental apparatus of the patient that he will never return to his normal mentality. For this reason, any alcoholic patient who is markedly confused, begins to have delusions, or is in a deep stupor

for some period of time, either with or without pain and tenderness of the legs, must be treated heroically. Simple withdrawal will usually not suffice, and many patients die from this condition. I recommend glucose for this condition, as it will reach the basis of the trouble, when no other type of remedy will. The doses should be massive—200 to 300 cc. of 50 per cent per day—and should be continued after the symptoms have apparently stopped.

Meningitis occasionally produces this double type of pathology, when there is a marked edema of the tissues. It is in these cases that glucose has its greatest action and produces the best results.

It has probably been evident that most of my discussion has been limited to acute conditions. Glucose has little or no benefit on the chronic manifestations of the above acute conditions, such as the sequelae of encephalitis, poliomyelitis, trauma, or toxic conditions, nor will it benefit those chronic conditions which lead to increased fluid, such as space-taking lesions, epilepsy or paresis. The reason for this is twofold. In the first group the damage to the neuron has already been done, and the acute condition which produced this reaction has probably subsided. A few injections may benefit the patient some by resolving the residual edema, but this benefit will soon wear out.

Glucose has another limitation in the more prolonged conditions, in that its effect will wear out when used over a long period of time. For this reason the chronic conditions, such as epilepsy, paresis, and the edema of space-taking lesions, receive only a transitory benefit. But this treatment will benefit the acute manifestations of these conditions, such as a status epilepticus, the transitory hemiplegias, and convulsions of paresis and the coma of brain tumor. However, in the latter condition subtemporal decompression should be done, if the patient's condition will stand it, as most of the symptoms are due to the new formed tissue rather than to edema, and the only way to alleviate the symptoms is to make more room for the tissue by enlarging the cranial cavity.

I wish to present a short summary of a few cases which have had a remarkable benefit from this type of treatment. All patients suffering from these conditions will not be as spectacular as these, but they will illustrate what may be done for these conditions.

CASE NO. 1

NAME: L. Y. AGE, 27

C. C.: Headaches and cranial nerve paralyse

ONSET: Headaches started several months ago and had been periodic until just before admittance, when became constant. Cranial nerve symptoms—7th developed in July and 6th in September; both started slowly and increased in severity, until complete. She had been treated for lues.

EXAM.: Patient was very lethargic when admitted, and soon lapsed into unconsciousness.

No localizing signs except complete paralysis of the 6th and 7th. Blood Wassermann, positive; spinal fluid pressure 42; cells 475; lymphocytes; sugar absent; chlorides 730; serology, negative.

DIAG.: Luetic meningitis.

TREAT.: Anti-luetic plus 50 cc. of 50 per cent of glucose and sodium-iodides and salicylates on alternate days.

RESULT: In four days, complete subsidence of all symptoms, except cranial nerve symptoms. These greatly improved; no recurrence in one month.

CASE NO. 2

NAME: J. P. AGE, 49

C. C.: Headache.

ONSET: About a week before, had a severe blow on head, with moderate depressed fracture.

COURSE: Headache severe until time of admittance.

EXAM.: Revealed only depressed fracture; no eye signs; S. P. pressure 18 mm. Hg.

DIAG.: Mild concussion of the brain.

TREAT.: 50 cc. of 50 per cent glucose t.i.d. for two days.

RESULT: Complete subsidence of headache; no return in four weeks.

CASE NO. 3

NAME: F. AGE, 70

C. C.: Mental disturbances.

ONSET: About ten days before admission, began to show mental aberrations and stopped eating four days later.

COURSE: Brought into hospital comatose.

EXAM.: Patient in coma; no physical defects.

DIAG.: Melancholia; toxic encephalosis.

TREAT.: 50 cc. of 50 per cent glucose twice a day for three days; once a day for a week.

RESULT: After first injection, roused and talked to doctor. Up and out of doors in four days; complete recovery of all symptoms.

CASE NO. 4

NAME: W. M. AGE, 14

C. C.: Malaise (Severe)

ONSET: One week before he came under my care, had a sudden attack of hyperpyrexia and headache.

COURSE: Within two days, headache and fever had left, but he was suffering from an inability to get up or go to school. No improvement in eight days.

EXAM.: Temperature varied from 96 to 98. There was an inability to converge his eyes.

DIAG.: Toxic encephalosis, resulting from an acute infection, position unknown.

TREAT.: Alkalies plus 50 cc. of 50 per cent glucose each day for three days, and then on alternate days, for a week.

RESULT: In two days, he was able to eat his meals at the table, and was back to school in ten days.

CASE NO. 5

NAME: A. M. AGE 45

C. C.: Alcoholism; nervousness and pain in the legs.

ONSET: Had been drinking very heavily for a week. Twenty-four hours before we saw patient, he began to develop severe pains in his legs and a moderate headache.

COURSE: His condition became rapidly worse, until his legs were so weak, he could hardly stand.

EXAM.: Patient was very disturbed. Reflexes hyperactive; extreme tenderness over nerve trunks of lower extremity.

DIAG.: Early Korsakow's psychosis.

TREAT.: 50 cc. of 50 per cent glucose every three hours for 48 hours; gradual withdrawal of alcohol.

RESULT: Complete subsidence of all symptoms in 36 hours.

CASE NO. 6

NAME: D. G. AGE, 30

C. C.: Mental disturbances.

ONSET: Suddenly, after a period of excessive drinking, six weeks before.

COURSE: No change in six weeks.

EXAM.: Revealed a typical case of mild Korsakow's psychosis.

DIAG.: Korsakow's psychosis.

TREAT.: 50 cc. of 50 per cent glucose every day for two months.

RESULT: An immediate improvement for several weeks, then slow progress. This case was so severe, that it was three months before she completely recovered.

CONCLUSIONS

I conclude from these cases and a survey of the literature, that—

1. Intravenous glucose is the best non-operative attack upon increased intracranial fluid.

2. It is most beneficial in those conditions in which there is an increase of brain fluid.

3. It is most beneficial in the treatment of acute manifestations, and does not give much benefit to the chronic types.

4. It should be used in every case of acute increased intracranial volume.

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Post-Encephalitic Oculo-Motor Spasm— Case Report

WILLIAM C. MENNINGER, M.D., Topeka

Post encephalitic Parkinsonism with its rigidity of posture, fixed facies, tremor, and sticky thought processes, has come to be a familiar clinical picture to most of us.

Experience with encephalitis has taught us to expect many unusual clinical features and particularly have we learned to examine the eyes with special

scrutiny. The various ocular disturbances have been summarized by many writers; recently by Foster Kennedy¹ before the New York Neurological Society in which paper he calls attention to the forcible spasmodic shutting of the eyes, ptosis of the eyelids, paralysis of divergence, diplopia, strabismus, rhythmic movements, oculomotor palsies, pupillary anomalies even to Argyll-Robertson pupils, nystagmus, and papilledema. That any of these may hang over into the Parkinsonian state is to be expected. And even in the evolution of this chronic condition, there occasionally develops a peculiar eye condition in which there is a conjugate tonic muscular cramp of the eye muscles, a symptom very rarely recorded in the acute stage of encephalitis.

This particular eye condition, which when present appears periodically, has recently received some very exhaustive consideration by Dr. Smith Ely Jelliffe under the term of oculo-tycric crises. Dr. Jelliffe^{2,3} has not only minutely studied several cases from private practice but has abstracted and reviewed some 200 cases reported in the literature. He quotes Bing (1926) as finding only three cases in 300 that presented this feature and Wimmer reported five out of many cases. Stern, on the other hand, found 20 in 100 cases.

CASE REPORT (NO. 2928)

A boyish looking young man twenty-five years of age, referred to us by Dr. J. A. Crabb of Topeka, seen first in July, 1930.

Family History—The father and mother are both living and well. They are both described as having even temperaments and consistent in their interests and activities. The father is a regular employee in railroad work, and both parents are temperate. There is one other child, a brother, five years older than the patient and in good health.

Past History—There are no significant points in the medical history of the patient and except for his present illness he has never had any serious ailments, no operations, and no very important injuries. From a developmental standpoint, he finished three years in high school, making good grades, and

then quit to go to work. He worked first for a railroad in the freight house for about six months and then took his place in a railway office where he worked for three years and two months, during which time he had five promotions. He was a member of De Molay, of the Christian Church, and before his present difficulty was interested in various sports, particularly baseball and football.

Present Illness—Ten years ago, 1920, the patient had an acute illness which at the time was not recognized as encephalitis but was thought to have been some sort of an influenza attack. Nevertheless, he never recovered from this and within a few months after the acute illness it was observed that his body movements were slow and stiff. This has continued and in many ways has progressively but slowly become worse. Six years ago (1924) he began having difficulty with his eyes and describes them as whirling around, and unable to keep them focused in one place. This eye difficulty became progressively worse over a period of two years, forcing him to stop his work. He got some glasses but these did not help. There have been no marked changes since this time except that his eyes have continued to roll, sometimes downward, and of recent years more consistently upward. He attaches considerable significance to the fact that if he rests during the afternoon and sleeps, the next day he is much more troubled with his eyes rolling up. He can see perfectly well and, except when his eyes are rolling too much, he reads a good deal.

He consulted various doctors. One physician told him that he had syphilis and treated him intravenously for several weeks, making him worse and of his own volition he quit. He saw another doctor who told him he had some sort of trouble and gave him medicine which made no difference in the course of his illness. The tremor of his hands and his rigidity had been very much of an annoyance and continually present. He had reached a place where he could hardly be out alone because his eyes rolled up so much he could not see where he was going.

Physical Examination—The patient is of small stature and except for some very obvious facts, like his rigidity, his tremor, his eye difficulty all of which are noted under the neurological heading; there were no outstanding somatic abnormalities.

Neurological Examination—The patient's eyes show a conjugate deviation upward and to the left, with much fluttering of the eyelids with a simultaneous turning of his head to the left. The patient can momentarily bring the eyes downward to focus on a fixed object but they promptly return to the left upper quadrant and often remain fixed there for several minutes. As long as they are rolled upward he appears in a trance-like state, remaining motionless and speechless. He usually holds his fingers over his closed eyes at such times and believes if he can lie down, that it helps him to regain control. The left pupil is slightly larger than the right and they are very sluggish in their reaction to light. There is a fine nystagmus. There is a right-sided facial muscle weakness and a rigidity to the facial expression with sluggish movements. In testing his hearing, there is a right lateralization, the right side has a slightly reduced bone and air conduction as compared to the left but both are approximately normal. The right shoulder droops slightly. He is unsteady in his gait and cannot walk a line. The right side is noticeably weak and with dynamometer the right hand shows 75 and the left 110. The right hand shows a fine rhythmic contraction, fine rhythmic tremors. Co-ordination is poor and adiadochocinesia is particularly marked in the right hand. The right knee jerk is noticeably more active than the left, otherwise the reflexes are approximately normal. Mentally the patient is alert but presents the typical sticky thought of the Parkinsonism picture. In regard to his eye motions he says that he can't think of anything at the time his eyes are rolling up except about the actual rolling. He keeps thinking of them before they roll up and fears that they are going to do so. He becomes very distressed wondering what he can do to get them to stop. He is mildly de-

pressed at times and says he frequently is somewhat despondent thinking whether he is going to get well and what he is going to do in the future.

DISCUSSION

This case, as in most similar reported instances, shows the development of the oculomotor difficulty, appearing some years (in this instance four) after the acute attack. According to Jelliffe, although a few have occurred from 2 to 4 years after the acute infection and one of Wimmer's cases developed the trouble after seven years.

Further, this case shows the usual picture of movement of the eyes in at least two directions: up and to the left. Most frequently in the reported cases the eyes go upward and to the right; a few directly vertical, and as further shown in this case, a few downward. The trance-like state is usual and occurs with each attack. These attacks in some cases have been at regular and some at irregular intervals, lasting from a few minutes to several days.

Jelliffe particularly emphasizes the compulsive element in the action and stresses the effective situation. He has found the most important subjective state as one of great anxiety, and records the affect reaction in the series of cases from the literature and analyzes in much detail the patients in his own series. He points out the possible relationships with such observations as the French doll movements, the early observation of Bell that when we go to sleep our eyes turn up, the classic oculo-gyric eye positions of the boy in Raphael's Transfiguration and other examples in the art of the middle ages in which Transfiguration and Crucifixion were the subjects and the relation to ecstasy and adoration as expressed in such pictures.

Comment has been made in the case report as to the mental contest of the patient but no attempt has been made to analyze this material further because the case was not studied from this angle, much as this seems desirable.

The treatment with *datura stramonium* in this case produced remarkably effective somatic relief, not only as to the

tremor, the sluggish cerebation, but also the eye muscle spasms. As noted in the report, these have practically stopped, while scopolamine⁴ has been used in idiopathic paralysis agitans since 1906, stramonium was first suggested by Juster⁵ in 1925 and used first in America by Shapiro⁶ in 1926. A report by Jacobson and Epplen⁷ from the Cook County Hospital in Chicago in 1929 states that stramonium is an excellent palliative remedy for all symptoms of the Parkinsonian syndrome of post-encephalitic origin, with the single exception of the paresis. They find that very large doses are necessary and that toxic manifestations are rare and seemingly evanescent.

This drug is an alkaloid, related to *belladonna* and *hyoscyamus*. It can be obtained for medicinal purposes as a powder or as a tincture. Shapiro used the powder form, starting with a one grain dose, given by mouth, three times a day and increasing the dose as necessary up to fourteen or sixteen grains a day. As soon as a noticeable effect is obtained, the dose is gradually decreased to seven or eight grains a day. It can be taken in this dose over a long period. The U.S.P. tincture of stramonium is preferred in many cases, and is given in doses ranging from 20 to 70 minims (1.2 cc. to 4.3 cc.) three or four times a day, administered orally.

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TUBERCULOSIS ABSTRACTS

In slavery days, tuberculosis is said to have been uncommon in the Negro. When he was suddenly freed and thrown on his own resources, deaths from that cause rose steadily. The disease is now about three times as prevalent among Negroes of the United States as among whites. Moreover, the pathology and the course of the disease in the two races are strikingly different. Does the Negro suffer an inherited susceptibility? Has his contact with civilization been too brief to develop the immunity which seems to

protect the white race more adequately? Will the handicaps of environment imposed upon the Negro account for the increased prevalence and severity of the disease? Serious searches for satisfying answers are just beginning to be made.

TUBERCULOSIS AMONG NEGROES

Knowledge of the peculiar character of tuberculosis in the Negro that explains the appalling mortality is defective. Statements concerning the clinical course of tuberculosis in colored people are vague. The suggestion is repeatedly made that there are conspicuous differences between the pathological changes produced by tuberculosis in the American Negro and white people. This conclusion is not warranted by the meager facts at hand. Almost nothing is known about the morbidity of the disease among the colored population or concerning the prevalence of minor but not infrequently grave infections which are the precursors of fatal disease.

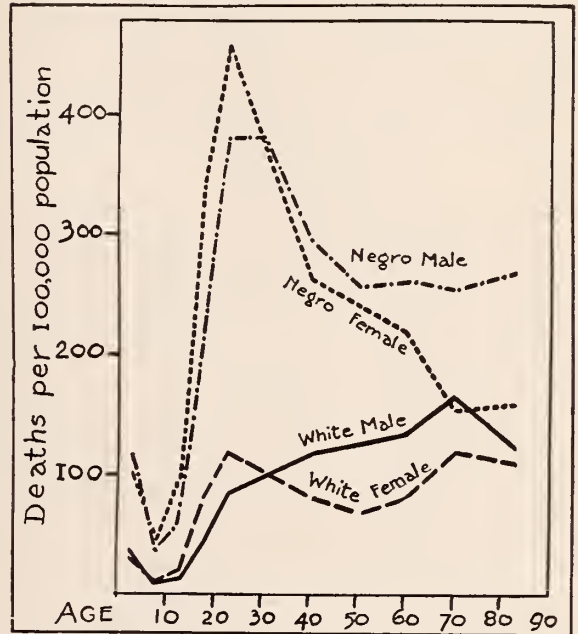
STATISTICAL DATA IN THE UNITED STATES

Among whites, the death rate for all ages is greater for men than for women, while among Negroes the rate is somewhat higher for women. The disease attacks Negro children with far greater severity than white, the ratio of deaths for the two races between birth and fifteen years of age being 1:9.2, but from fifteen up to twenty-five, 1:3.9. The death rate has fallen rapidly in both races since 1911 but somewhat less for colored than for white. The mortality graph for Negroes is that of a disease that begins in adolescence or early adult life and pursues a rapidly fatal course.

TUBERCULOSIS IN AFRICA

The interior of Africa was free from tuberculosis before the advent of the white explorer. Sorel, among others, gives us a glimpse of how the disease was spread. At Bassam on the Ivory Coast, 22.9 per cent of the inhabitants reacted to tuberculin, whereas at Bornake, 212 miles inland, only 2 per cent reacted. Ziemann found that, among the 80 natives of the highlands adjacent to Bantu, only one reacted to tuberculin and this man had served as a soldier on the coast. Borrel studied French African troops during the World War. Of re-

cently recruited men brought directly from Senegal to the Frejus Camp, only 4 or 5 per cent reacted to tuberculin. The incidence of tuberculosis increased steadily although earnest effort was made to



Tuberculosis Mortality 1925, U. S. Death Reg. Area of 1920. —Proceedings N.T.A., 1930, p. 264, Edgar Sydenstricker.

combat the disease, and the deaths increased from 48 in 1916 to 557 in 1918. The death rate estimated per 100,000 was 624 in 1917 and 1,114 in 1918.

TUBERCULOSIS IN JAMAICA

Jamaica has a population of about 800,000 Negroes and 15,000 whites. Both races have been in contact for three centuries. The disease is primarily one of cities and spreads to country districts. Dwellings are crowded, and the poorer people are careless in their habits. In the native Jamaican, tuberculosis usually pursues a rapidly fatal course. While the disease in Jamaica spreads rapidly, its short course doubtless retards its spread.

A relatively small number of autopsies performed on those who have died from tuberculosis in Jamaica show that, whereas the chronic type of pulmonary tuberculosis familiar in white people does occur in the native Jamaican, the disease much more frequently resembles that of children in this country. It has the familiar characters of a first infec-

tion, arising in some part of the lung other than the apex and producing massive enlargement and caseation of the adjacent tracheobronchial lymph nodes. The lungs and lymph nodes contain no healing or healed (calcified) scars of a preceding infection. Death may follow general dissemination throughout the body. Instances of chronic pulmonary tuberculosis identical with that of white adults in this country occur in Jamaica, but even when the disease is most advanced in the apex, it often has characters intermediate between those of the childhood and adult types of this country, for massive caseous pneumonia is a conspicuous feature of the lesion and there is some caseation of the lymph nodes about the bronchi.

It appears, therefore, that tuberculosis in the American Negro in certain respects is intermediate between that of the native Jamaican and that of white people in the United States.

HEREDITY AND ENVIRONMENT

Discussions concerning the relative importance of heredity and environment as factors of tuberculosis are unprofitable. Environment determines the conditions under which the invading microorganism enters the body, and inherited susceptibility will determine the varying course of the disease under various conditions of infection. Specific immunity acquired as the result of infection may modify inherited susceptibility. The circumstances under which human infection with tuberculosis occurs are so complex and imperfectly understood that it is doubtful if we have any information that can be used to determine in what degree heredity influences the susceptibility of the Negro race to the disease.

The present information does not show that the Negro race has any hereditary susceptibility to the disease, but this possibility cannot be excluded. Poverty and unfavorable environment certainly favor the spread of the disease. The pathological anatomy of tuberculosis in colored people of the United States indicates that they escape infection during childhood more frequently than the whites and then die from a form of tu-

berculosis that has all the severity of a first infection. Contagion within the household is the important factor. It is a problem of preventing massive infection.—*The Epidemiology of Tuberculosis of Negroes, Eugene L. Opie, Jour. of the Outdoor Life, Sept., 1930.*

STUDIES IN TENNESSEE

In 1927, the death rate from tuberculosis in Tennessee was 96 per 100,000 population for whites and 252 for Negroes. The Tennessee Department of Health is engaged in a special study involving the racial distribution of tuberculosis. Dr. Eugene L. Bishop, Commissioner, who is aided by specialists vested in epidemiology, pathology, and sociology, summarizes some of the impressions derived from the study thus far:

1. There are definite differences in Tennessee between the white and colored races with regard to the total tuberculosis mortality rate, and in the rate by age groups. The difference in mortality rates is most marked in the years of infancy, childhood and adolescence.

2. Evidence is accumulating that similar differences exist in the racial distribution of tuberculosis infection. Results from an admittedly small group of tuberculin tested children suggests the possibility of a higher contact rate among contacts in the colored than in the white race.

3. The clinical type of the disease observed is different in the two races. The chronic fibroid type of tuberculosis is rare, but not unknown in the colored race.

4. Generally speaking, Negroes present themselves for examination, and begin treatment, in a more advanced stage of the disease.

5. Negroes are less able and less apt to adopt measures calculated to prevent the spread of the disease to other persons.

6. Negroes with tuberculosis are a source of infection not only to members of their own families, and associates, but also under certain conditions to members of the white race.—*Dangers of the Tubercle Bacilli Carrier, Eugene L. Bishop, Jour. of the Outdoor Life, Sept., 1930.*

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HOLIDAY GREETING

One of the great blessings to a civilized people is the annual recurrence of the holiday season, for at least once a year messages of good cheer go out from all the land, from high and low, rich and poor, young and old. At such times something is engendered in the souls of men perceptible to all our senses. We hear it in the chiming bells, in the voices of the singing children, in the creaking of the drifted snow, in the melody of the falling rain or we feel it driven to the cockles of our hearts by the warm sunshine and we see it in the smiling eager faces of the people we meet. No matter whence it comes or whither it goes there is some influence that subdues ones vicious inclinations and stimulates his impulses for good, makes him realize that his greatest happiness comes from making others happy. It is one time in each year when every man feels an irresistible impulse to make friends of his enemies, congratulate those of whom he is jealous, forgive those who have injured him and ask forgiveness of those he has injured. The holiday spirit belongs to no

age or social condition, it is a state of mind that is neither created by wealth or destroyed by poverty. It is one of the gifts to mankind that has been cherished through the centuries and continues to thrive in the hearts of the people.

May each and everyone of you enjoy to the fullness of his capacity the blessings of the approaching holiday season.

THE DEBACLE

Something happened. Even the blind, the deaf and the dumb admit it. But the expert investigators have so far been unable to agree upon a satisfactory theory as to how and why it happened. There is always the suggestion that the doctors are to blame for the debacle, that if they had not insisted on persecuting that poor defenseless innocent Christian martyr at Milford things would have moved along in their usual harmonious political pathway. Perhaps so. At any rate it may be conceded that the Brinkley hearing with all its attendant newspaper and radio publicity gave the political vote jugglers an opportunity which they did not hesitate to take advantage of.

But there were political avalanches in other states in which there was no convenient martyr about whom an attritional aggregate of two hundred thousand sympathetic, self deluded and misguided but legally enfranchised citizens could be gathered.

In Kansas the material was ready and waiting to be gathered up by the first snowball that started to roll and it so happened that the doctors made a snowball and set it up at the right time and place to be tipped over by whoever wanted to do so. No matter who tipped the ball over the edge of the precipice there were caught and destroyed in the progress of the avalanche a good many long established reputations for wisdom and integrity, a lot of confidence in the normalcy of human instincts, and much

of what remained of people's respect for law.

We are told that people voted for Brinkley in retaliation, that they resented the action of the board in cancelling his license. If that is true then we must believe that there are about two hundred thousand people in Kansas who are opposed to the enforcement of law, or perhaps it would be better to say this particular law. And this would mean that there are two hundred thousand people who are opposed to the fixing by the State of any standard of qualifications for practitioners of the healing art.

If then it is true that all those people that voted for Brinkley are opposed to such laws as our medical practice act, we should not be surprised if one or several bills to repeal that law appeared in the next legislature, nor should we be much surprised if such a bill were passed. A good many of the people who voted for Brinkley think that would be a good way to get even with the doctors.

Of course we don't want anything of the kind to happen, but certainly not for the reason they think. The medical practice act was not enacted for the purpose of protecting the medical profession nor has it proven of any particular benefit to them. The adoption of special laws has permitted the licensing of a large number of practitioners who could not possibly meet the standard of qualification set up by the medical practice act. It is inconceivable that poorly qualified or totally unqualified men can offer any dangerous competition to real physicians and surgeons. The only detriment they can possibly do to the legitimate practice of medicine is that such men usually get all the money the patients have and the physician has to take care of them for nothing. Well, that feature of the situation could be very readily adjusted if we cared to be a little more mercenary in

our relations with the friends of so-called medical liberty.

On the other hand whenever the gates are opened for the entrance of all kinds of doctors and pseudo doctors there will soon be more business for all of us. The class of men that will enter the practice of the healing art in this State under such conditions are usually opposed to the rules and regulations adopted by the health authorities. They are most likely to be poor diagnosticians. If not ignorant of, they are usually opposed to, the use of modern methods of disease prevention. Under such handicaps as these the most vigilant supervision by the health authorities will fail to prevent outbreaks of smallpox, diphtheria, typhoid fever and other contagious diseases that were once so profitable to the doctors. After listening to some of the arguments advanced by otherwise intelligent people, one wonders if there may not be people who would contract smallpox or typhoid fever just to spite the doctors.

We would all dislike to see a recurrence of those old conditions and it is inconceivable that the people would willingly destroy the immunity against contagious diseases they have enjoyed for the past decade or so, but the recent debacle suggests that anything may be expected.

THE BASIC SCIENCE BILL

A question now frequently heard concerns the prospect of passing the basic science bill in the next legislature. The most natural conclusion is that it would be hardly worth while to introduce it. Of course that conclusion is based on the assumption that all of those who voted for Brinkley are opposed to scientific medicine on general principles. Even if such is not the case enough of that sort of sentiment was injected into the campaign to impress the legislators against a bill of this kind.

During the past two years some objections to the basic science bill have been advanced that deserve careful consideration. One of the most perplexing features of the bill is the composition of the examining board. It is important that the board shall not be controlled by any of those who will be in any way affected by the law. The composition of the board as provided by the bill introduced two years ago was by no means entirely satisfactory, but it seemed to be the best that could be done.

The bill has been objected to on the ground that it will interfere with our reciprocity relations with other states. While the text of the bill seems to cover the point, there has been some difficulty along that line in states where it has become a law. These difficulties should be easily removed by the examining boards if they are inclined to do so.

Just what if any changes should be made in the draft of the bill as it now stands is a matter for the members of the society to decide within the next few weeks.

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THE RECENT EPIDEMIC—A CLINICAL REPORT Malar Bone, M.D.

The most serious epidemic of poll-evil in the history of the world has recently demoralized the social equilibrium of this fair land of Kansas. Although the mortality rate was low there were left in its wake many evidences of its protean manifestations.

It appeared practically without warning and was apparently very contagious spreading by both direct and indirect communication.

From somewhat conflicting reports from numerous observers it seems that it was multi-poll-er in its distribution. The sympathetic system seemed to be most commonly and severely involved and there was also more or less motor par-

alysis in all of the limbs of the parties affected. One of the most frequent symptoms manifested by those who were seriously affected by the epidemic was a disorientation indicated by a constant reiteration of the question: "Where are we at?" It might be mentioned that in this, as in all severe epidemics, many suffered from its effects besides those who actually had the disease.

There have been so many different opinions concerning the etiology of this disease that one must hesitate in coming to any definite conclusion. One investigator reports the isolation of the *bacillus vindicta Reedei* and considers this organism as at least the principal and perhaps the sole etiologic factor. Others, however, have been unable to confirm his findings in that the *bacillus vindicta Reedei* has been always associated with certain anaerobic and a-luminous organisms which might also have some etiologic relation to the disease.

Attention has also been called to the fact that some weeks prior to the onset of the epidemic McDonald, a research worker in the Star Laboratory, announced the discovery of a pythogenic organism, giving full detailed description of its habitat, culture habits and pathologic effects. It is claimed by some investigators that this discovery is significantly related to both the occurrence and rapid spread of the epidemic.

To other possible non-specific factors have been ascribed more or less important rolls by various careful observers and numerous onlookers. None of the data so far submitted has been confirmed by properly controlled experiments, but when the incidents reported are carefully correlated and synchronized with certain pre-epidemic events it may be possible that some less erroneous theory than those previously advanced may be evolved.

Beginning then with the history as recorded one finds that for some two years evidence had been accumulating in the executive offices of one of the state departments, to whom had been delegated the enforcement of certain police powers having to do with the public health and welfare, that the body politic was suffering from an insidious ailment for which some focus of infection was probably responsible. The existence and location of such a focus was strongly indicated by the clinical reports received but further confirmatory evidence was required. Laboratory reports from various sources indicated the presence and predominance of a *spirillum pecuniae aviditas* usually associated with a *glandulococcus capri*. Further experiments seemed to show that the inoculation of these two organisms into suitable soil always resulted in a reaction similar to the reactions in the cases previously reported.

The evidence seemed sufficiently conclusive to justify an effort to eradicate this particular focus of infection at least and an operation devised for that purpose was undertaken. Up to this point everything seemed to have proceeded in logical sequence but whether it was premature or had been delayed too long, whether the assistants to the operators were incompetent or improperly prepared, not perfectly or too perfectly sterilized, the operation failed in expected results. As sometimes happens in other attempts to cure a disease by removing a focus of infection and a blood stream infection results, so in this case there seemed to be a markedly virulent dissemination of the virus throughout the body politic.

The doctors to whom the State had entrusted the investigation and subsequent operative procedure acted in good faith, were conscientious in their investigations, logical in their diagnostic conclu-

sions and scrupulously cautious in their operative technic. In spite of that, however, these men as well as the medical profession as a whole are blamed for the occurrence of the epidemic. However, they are not blamed for failing, but for trying to prevent the spread of the disease. And, stranger than any fiction was the method of retaliation the people adopted, for they voluntarily exposed themselves and contracted the disease to spite the doctors. Tabulated reports from all the counties in the State show that there were more than 185,000 definitely identified cases of the affliction and many thousands more which could not be positively diagnosed.

Although the epidemic has apparently ceased to spread, convalescence seems unusually slow and what if any sequella are to be expected no one knows positively. The doctors naturally resent the imputation of responsibility for the epidemic and insist that they did all that honorable men could do and that if they had been given reasonable co-operation and had not been hindered in their plans the source of infection would have been entirely eradicated and such an epidemic would have been impossible. The parties that should have furnished the co-operation and were also apparently responsible for the interference, believed that they themselves were immune and that the threatened epidemic would prove to be of no consequence anyway. The events, of course, have shown that they were mistaken in both surmises.

ABOLISHING THE EXAMINING BOARD

The following is a copy of a bill introduced by Mr. Waggener in the House of Representatives during the special session, February, 1930.

It will be noted that the osteopathic board, the chiropractic board and the cosmetologist board are not included

with those to be transferred to the board of health.

If all of these boards were abolished and the duties they now perform delegated to the Board of Health the problems which now confront us might be more easily solved.

House Bill No. 7

AN ACT transferring all the powers and duties to the state board of health, of the board of medical registration and examination, the state podiatry board of examiners, board for examination of trained nurses, state board of dental examiners, board of examiners of optometry, state board of pharmacy, state board of embalming and state barber board to the state board of health, and abolishing said boards and repealing sections 74-1002, 74-1103, 74-1104, 74-1105, 74-1402, 74-1403, 74-1501, 74-1502, 74-1503, 74-1601, 74-1602, 74-1701, 74-1703, 74-1704, 74-1705, 74-1801, 74-1802, 74-1803, 74-1804, of the Revised Statutes of Kansas, 1923, and chapter 50 Laws of 1925, and chapter 246, Laws of 1927, and any and all acts and parts of acts in conflict therewith.

Be it enacted by the Legislature of the State of Kansas:

Section 1. All duties, powers and obligations imposed by any statute upon the board of medical registration and examination, the state podiatry board of examiners, board for examination of trained nurses, state board of dental examiners, board of examiners of optometry, state board of pharmacy, state board of embalming and state barber board are hereby transferred to and imposed upon the state board of health and in any statute wherein reference is made to the above-named board it shall be held and construed to apply to the state board of health and in any statute wherein the above-named boards are authorized to appoint a secretary or any other official or employee the same shall be construed to apply to the state board of health and said state board of health is given authority to make such necessary appointments to carry out the terms and provisions of the laws governing said above-named boards.

Section 2. The board of medical registration and examination, the state podiatry board of examiners, board for examination of trained nurses, state board of dental examiners, board of examiners of optometry, state board of pharmacy, state board of embalming and state barber board are hereby abolished and the said state board of health is hereby given all authority under the law imposed upon said foregoing abolished boards.

Section 3. That wherever there is any provision in law authorizing and directing the board of medical registration and examination, the state podiatry board of examiners, board for examination of trained nurses, state board of dental examiners, board of examiners of optometry, state board of pharmacy, state board of embalming and state barber board to collect any fee, the same shall be construed to mean that such fees are to be collected by the state board of health and such fees are to be by the state board of health deposited with the state treasurer and notice of the amount of such deposit of a money collected from fees charged in the enforcement of the laws relating to the above abolished boards shall be filed with the auditor of state and said money so deposited shall be credited to the general revenue fund of the state.

Section 4. The state board of health shall be authorized to appoint such members of its board as may be deemed proper, who shall be given charge of enforcement of the laws pertaining to said boards herein consolidated with the state board of health and such member of said state board of health in charge of the enforcement of the various laws provided for governing the boards herein before abolished shall present a request to said state board of health in detail showing the necessary funds required for the proper enforcement of the department assigned to said member, together with the number of employees in each said department, the salaries to be paid and the approximate expenses necessary for the enforcement of the laws governing said consolidated board, which request shall not in any event exceed 40

per cent of the amount of fees collected by said board or boards during the year previous to the enactment of this act and if said requests meet the approval of the said state board of health it shall be contained in its budget to the legislature at its next regular session. That no money shall be expended by any of said consolidated boards in excess of the appropriations made by the legislature.

Section 5. That sections 74-1002, 74-1103, 74-1104, 74-1105, 74-1402, 74-1403, 74-1501, 74-1502, 74-1503, 74-1601, 74-1602, 74-1701, 74-1703, 74-1704, 74-1705, 74-1801, 74-1802, 74-1803 and 74-1804 of the Revised Statutes of Kansas, 1923, and chapter 50, Laws 1925, and chapter 246, Laws of 1927, and any and all other acts or parts of acts in conflict herewith are hereby repealed.

Section 6. This act shall be in force and effect from and after its passage and publication in the official state paper.

Do the people generally have less respect for law than formerly or do officials have more respect for criminals than formerly? The answer is yes. The diminishing popular respect for law is due to and in proportion to the increasing official respect for criminals. At any rate that is a conclusion readily reached by one whose mind is in any way affected by what he hears and sees and reads.

Those in the medical profession whose time is mostly devoted to teaching and whose interests are largely confined to professional attainments are likely to underestimate the intelligence and ability of the average practitioner.

To him the medical profession is made up of teachers and students—students in the narrower sense. And fearing lest he put his "fodder too high for the calves" his discourses to bodies of practitioners are usually extremely academic.

A few tubes of paint and a piece of canvas do not constitute a picture. Only when the paint is properly blended and

skillfully spread upon the canvas by someone that knows how, do they form a recognizable portrait or landscape.

A clinical history with a number of subjective symptoms and physical signs do not make a diagnosis. Only when these have been intelligently evaluated, correlated and arranged by someone with experience do they form a picture that is recognizable as a symptom group or the expression of a definite pathological condition.

—————R—————

Co-operation Between the States and the Federal Government in the Enforcement of Narcotic Drug Laws

A letter was recently sent by this bureau to all of our state medical associations, relative to the influence that a state medical association can exercise in promoting co-operation between the State Government and the Federal Government to prevent the abuse of narcotic drugs. As a result, inquiries have been received as to how an association can best proceed with respect to the matter. That question can be answered best by each state association for itself. For the assistance of the several associations, however, the following comments are submitted:

Co-operation in the execution and enforcement of state narcotic drug laws is now the legal duty of the federal officers charged with the execution and enforcement of the federal narcotic drug laws. On the part of the state governments, however, reciprocal co-operation is a matter only of good-will; it is not required by law. A state medical association, therefore, may with advantage do anything that can be done to bring about good-will on the part of the State Government with reference to such co-operation. As a step toward that end, it might call the attention of the Governor to the desirability of co-operation and offer the aid of the association in carrying out a co-operative program.

But good-will alone is not sufficient. Good will, to be effective, calls for adequate state narcotic drug laws and adequate machinery for enforcing them. An

investigation made by the Bureau of Legal Medicine and Legislation several years ago showed that most states have narcotic drug laws that can be made more or less effective, but only a few have state machinery for accomplishing that end. The prevailing rule seems to be for the State Government to leave the execution and enforcement of state narcotic drug laws to local peace officers, without giving them adequate instruction and assistance in the discharge of their duties.

In some states, it is true, a state board or officer is charged with the duty of executing and enforcing the narcotic drug laws. Too often, however, the board or officer charged with that duty is not provided with adequate machinery for performing it. Under such circumstances, the specific assignment to a state agency of the duty of enforcing the state's narcotic drug laws may do more harm than good. Local peace officers may construe the assignment of that duty to a state agency as relieving them of all responsibility with respect to the matter.

A state medical association may well begin, it seems to me, by a study of the machinery, state and local, available for the execution and enforcement of the state narcotic drug laws.

Personally, I am inclined to believe that a state board or officer should be charged, not primarily with the duty of enforcing its narcotic drug laws, but with the duty primarily of seeing that they are enforced and helping in their enforcement when necessary. The primary duty of enforcing the law should rest on the local peace officers and county attorneys throughout the state. These peace officers and county attorneys should be adequately instructed by the state board or officer charged with the duty of enforcing the narcotic drug laws as to what their duties are and how to discharge them. The state board or officer should be provided with a sufficient force of inspectors, analysts, clerks, and attorneys to enable it to help the local law enforcement officers by supplementary inspection service when needed, by analyses, and by legal advice and assist-

ance. The state agency, however, should supervise the work of local agencies to see that it is properly performed and should stand ready to criticize in event of wilful or negligent default on the part of the local officers.

Along with any inquiry that a state medical association may make into the adequacy of the machinery for executing and enforcing the state narcotic drug laws and for co-operation with the Federal Government in the execution and enforcement of the federal narcotic drug laws, the association might well inquire into the adequacy of the state narcotic drug laws, with a view to supplementary legislation, if needed.

As indicated in my recent letter, the American Medical Association is directly responsible for the provisions in the recently enacted Federal Narcotic Service Reorganization Act that require the Secretary of the Treasury to co-operate with the state in the suppression of the abuse of narcotic drugs. That fact alone seems sufficient to justify the constituent associations of the American Medical Association in taking action to promote such co-operation.

Action by state medical associations will tend, too, to forestall such legislation as the Sheppard-Towner Maternity and Infancy Act, providing for the taking over by the Federal Government, by purchase or otherwise, of the rights of the states to manage their internal affairs in the field of hygiene and public health.

Finally, in the present instance, co-operation between the states and the Federal Government will tend strongly to prevent the enactment of such legislation as that proposed by the late Representative Porter, and still pending in the House, H. R. 9054, under which the Federal Government would take away from each and every state its authority to say who may and who may not professionally use narcotic drugs, and vest that authority in a federal narcotic dictator.

WM. C. WOODWARD.

—R—

"Rastus, what's an alibi?"

"Dat's provin' you was in a prayer meetin' whar you wasn't, to show dat you wasn't at de crap game whar you was."—Montreal Star.

Pending Legislation in Congress Proposing To Revive Sheppard-Townerism.

The Bureau of Legal Medicine and Legislation, American Medical Association.

On December 2, President Hoover, in his annual message to Congress, said, in part:

"I urge further consideration by the Congress of the recommendations I made a year ago looking to the development through temporary Federal aid of adequate State and local services for the health of children and the further stamping out of communicable disease, particularly in the rural sections."

On December 3, Senator Wesley L. Jones, of Washington, announced on the floor of the Senate, that he would press for passage at the first opportunity, S. 255, a bill introduced by him for the promotion of the health and welfare of mothers and infants, which was then pending on the Senate consent calendar, with a favorable committee report. On December 4, on motion of Senator Jones, the Senate voted to make S. 255 its unfinished business. The bill, therefore, may be considered by the Senate before the holiday recess.

On December 5, the secretaries of the state medical associations were urged to telegraph vigorous protests to their senators against the enactment of this bill. Letters of protest should follow, explaining in more detail the reasons prompting the protest and should relate not only to S. 255, but to all pending bills proposing a revival of Sheppard-Townerism. Letters of protest should be sent, also, to members of the House of Representatives.

WM. C. WOODWARD, Director.

RESOLUTIONS OF HOUSE OF DELEGATES

The House of Delegates of the American Medical Association, in May, 1922, declared the original Sheppard-Towner Act a product of political expediency and not in the interest of public welfare and disapproved it as a type of undesirable legislation which should be discouraged. Eight years later, the House of Delegates, after observing the Sheppard-Towner Act in operation for a period of seven years, had found no evidence to produce any change in its views with respect to the act. At the Detroit

session, in June, 1930, the following resolution was approved:

"Whereas, The American Medical Association is in entire sympathy with the co-operative efforts of federal and state agencies to establish and develop official local health organizations for the conduct of those activities which are generally recognized as the proper functions of such health departments; and

"Whereas, The usurpation of any public health function by any lay bureau of the federal government, which, through allotments of federal subsidies for special health services, seeks to duplicate and administer duties and functions already placed by law on the United States Public Health Service, tends to produce inefficiency and waste; and

"Whereas, The United State Public Health Service has in the past efficiently discharged its duties with respect to such matters and now, through recent reorganization, has been provided with enlarged facilities for carrying on such work; and

"Whereas, An effort is now being made to revive and perpetuate the federal subsidy system established under the Sheppard-Towner Maternity and Infancy Act, which authorized the payment of state subsidies, over a fixed period of years, on an arbitrary and irrational basis of population, without reference to the ascertained sanitary and health needs of the several states or to their ability to meet their own needs; and

"Whereas, The payment of such subsidies was made dependent on the surrender by the legislatures of the several states, to the federal government, of the right to supervise and control state activities in the selected field of public health; and

"Whereas, This system after seven years' trial under the administration of a lay bureau effected no improvement in the field of public health in which it was operative, notwithstanding the expenditure of millions of dollars of federal and state money; and

"Whereas, In the judgment of the House of Delegates of the American

Medical Association, any such system tends to destroy local initiative and sense of responsibility and to pay federal funds for purposes named by the federal government to states not in need of federal aid; be it

“Resolved, That the House of Delegates of the American Mederal Association condemns as unsound in policy, wasteful and extravagant, unproductive of results and tending to promote communism, the federal subsidy system established by the Sheppard-Towner Maternity and Infancy Act and protests against the revival of that system in any form;

“Resolved, That it is the sense of the House of Delegates that each state should be left free to formulate its own health programs, with the co-operation of the United States Public Health Service if desired by the state, free from any inducement or compulsion in the way of federal reward or coercion;

“Resolved, That any legislation involving co-operation between the federal government and the several states in the field of public health must, in the interest of efficiency and economy, in the judgment of the House of Delegates, be administered under the joint supervision and control of the United States Public Health Service and the state health authorities; and be it further

“Resolved, That copies of these resolutions be sent immediately to the President of the United States and to every Senator and Representative in Congress.”—*Proceedings, House of Delegates, A.M.A., 1930, p. 35, 40, 41.*

—R—

SOCIETIES

CLAY COUNTY MEDICAL SOCIETY

The November meeting of the Clay County Medical Society was held in the sun parlor of the Clay Center Municipal Hospital on the evening of the 12th.

The meeting was called to order by the president, Dr. C. C. Stillman. Minutes of the preceding meeting were read and approved. On motion it was decided to declare the December meeting “Ladies and Guest Night” with a banquet at the Clay Center Country Club. Arrangements have been made to have Drs.

Harold Kuhn and Ferdinand Helwig as speakers for that evening.

Following the business session Dr. E. H. Decker of Topeka gave an interesting and instructive talk on “Lesions of the Mouth.”

Fourteen members and two visitors were present. The visitors were Dr. E. H. Decker and Dr. H. L. Kirkpatrick of Topeka.

On motion the meeting adjourned at 9:12 p. m.

F. R. CROSON, Secretary.

BOURBON COUNTY SOCIETY

The Bourbon County Medical Society met in regular session November 17, 1930, at 8:00 p. m. in the library building, with Dr. Gooch in charge.

Doctors from Iola, Pleasanton, and Pittsburg were present at the meeting.

Minutes of the last meeting read and approved. A communication was presented from the Allen County Medical Society at Iola, inviting the Bourbon County Medical Society, to attend its meeting to be held in Iola November 19, 1930.

Our next meeting is our Annual Banquet. It was moved and seconded that the wives of the Doctors be invited to attend this meeting. Drs. Hunter, Gench and Strohm were appointed to make arrangements for the banquet.

Dr. H. N. Tihan of Wichita gave a wonderful paper on “Peptic Ulcer.” His paper was discussed by Drs. Marchbanks, Wilkening, Crume, Newman, Mitchell, Rush, Hunter, McEwen and Tihan.

Dr. Fred McEwen of Wichita was the second speaker of the evening. He gave a most excellent paper on the “Disorders of the Heart Beat.” This paper was discussed by Drs. Mitchell, Crume, Marchbanks and McEwen.

At a late hour the meeting adjourned.

W. S. GOOCH, President.

R. Y. STROHM, Secretary.

DECATUR-NORTON COUNTY SOCIETY

The Decatur-Norton County Medical Society met in the Masonic Temple at Atwood, November 12.

The following program had been arranged:

Business meeting.

Paper—Dr. C. E. Long, Prairie View.

Choice of Anesthesia—Dr. J. M. Wills, McCook.

Warts—Dr. Arthur E. Hertler, Halstead, Kan.

Dinner.

ALLEN COUNTY SOCIETY

Having just emerged from an epidemic of Polio the Secretary of Allen County Society conceived the idea that a meeting devoted to that scourge was opportune.

Rex Diveley and Frank Neff of Kansas City kindly consented to come down and Dr. Kimmeman of the state board favored us, which rounded out the best meeting we have had in this part of the state in recent years. The program follows:

Polio-Myelitis

History.....Dr. R. L. Gench, Ft. Scott
Epidemiology—Dr. C. H. Kimmeman,
State Board of Health, Topeka.

Etiology.....Dr. P. S. Mitchell, Iola
Spinal Puncture.....Dr. A. M. Garton
Chanute

Quarantine.....Dr. Geo. Davis, Ottawa
Experiences—Dr. E. S. Edgerton, President
State Society; Dr. Russell E. Hobbs,
Health Commissioner of Wichita; Dr. G. F. James,
Williamsburg, and others.

Symptoms and Treatment of Acute
Stage ...Dr. Frank Neff, Kansas City
Reconstruction—Moving Pictures

.....Dr. Rex L. Diveley, Kansas City

Invitations were sent out to all adjoining counties and, notwithstanding one of the hardest of rain storms, a splendid bunch of fifty responded.

It is my opinion this subject should be taken up in other counties where the disease was prevalent as a lot of good will be had from numbers. I have never seen such interest taken in a meeting.

P. S. MITCHELL, Secretary.

SHAWNEE COUNTY SOCIETY

The annual meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, Topeka, Monday evening, December 1. After an excellent

turkey dinner the guest of the evening, Dr. Arthur E. Strauss of St. Louis, delivered an address on myocarditis.

Dr. George H. Allen was elected president for the ensuing year and Dr. W. F. Bowen was elected vice president. Drs. Earle G. Brown, M. B. Miller and F. L. Loveland were re-elected as secretary, treasurer and member of board of censors respectively. The secretary's report showed a membership of 137 and an average attendance of 54.

There were about one hundred members and guests in attendance.

RUSH-NESS COUNTIES SOCIETY

The Rush-Ness Counties Society met with Dr. J. E. Attwood in LaCrosse, Kansas, November 25, 1930, Dr. Robinson, vice president, presiding. A number of communications were read and the regular business of the Society transacted. The following officers were elected for the year of 1931:

Dr. D. H. Nothdurft, Otis, Kansas, president; Dr. J. A. Blount, Burdett, Kansas, secretary-treasurer.

Dr. L. A. Latimer of Alexander, read a paper on "Eye Injuries" and a general round table discussion followed.

Luncheon was served at the Commerce Cafe following the meeting.

The Society will be guests of Dr. Robinson at Bison for our January meeting.

F. D. SMITH, M.D., Sec.

SOUTHWEST CLINICAL SOCIETY

The Kansas City Southwest Clinical Society will hold its monthly clinic on Tuesday, January 13, 1931, at Research Hospital. Guest of honor, Dr. W. T. Coughlin, professor of surgery, St. Louis University School of Medicine, St. Louis, will speak on "Diagnosis and Treatment of the Acute Abdomen" and at 8 p. m. at a joint meeting of the Jackson County and Wyandotte County Societies at the Medical Arts Building on "My Personal Experience with Sympathectomy in Arthritis."

The entire program will be built around Dr. Coughlin's subject which will be of interest to the general practitioner.

DEATHS

Carl A. Palm, Colony, aged 63, died November 23, 1930, of acute indigestion. He graduated from the medical department of the University of Illinois in 1905. He was local surgeon for the A. T. & S. F. R. R. He was a member of the Society.

George Hewitt Smith, Kansas City, aged 63, died at Bethany Hospital, November 29, 1930. He graduated from the Eclectic Medical University, Kansas City, Missouri, in 1906. He was a member of the Society.

Byron Leaford Hale, Cherryvale, aged 64, died September 17 of carcinoma of the prostate. He graduated from the Kansas Medical College at Topeka in 1900. He was a member of the Society.

L. A. Summers, Wheaton, aged 64, was killed in an automobile accident, November 30, 1930. He graduated from Marion-Sims College of Medicine, St. Louis, in 1893.

BOOKS

Children's Disease, treatment of, by Prof. Dr. F. Lust, director of the Children's Hospital, Karlsruhe. Translation of the sixth German edition by Sander A. Levinsohn, M.D. Published by J. B. Lippincott Company, Philadelphia.

This book deals especially with the treatment of children's diseases and a great many formulae are given and the various methods of treatment are described. Concise descriptions of the various diseases are given but the purpose of the author is to describe the treatment.

Surgical Clinics of North America. (Issued serially, one number every other month.) Volume 10, number 5. (Pacific Coast Number—October 1930.) 271 pages with 136 illustrations. Per Clinic year (February 1930 to December 1930.) Paper, \$12.00; Cloth, \$16.00. W. B. Saunders Co., Philadelphia and London.

The clinics in this volume were contributed by fellows of the Pacific Coast Surgical Association. The cases reported are mostly of the unusual type. There are too many of them for individual mention but among the most practical may be noted a case of subclavian aneurysm by Caldbick, aberrant renal vessels a cause of kidney disease by Cecil, traumatic rupture of urinary bladder by Chidester and Prindle, closure of bronchial fistula by Eloesser, endogastric

myoma by Kahn, acute obstruction of the jejunum caused by a fibrous bolus by Lobingier, fractures of the spine by Taylor. Reichert reports a case of epilepsy due to an arteriovenous aneurysm of the brain. Watkins has a clinic on prolapse of the uterus in elderly women. King describes a technic of thyroidectomy.

Textbook of Gynecology. By Arthur H. Curtis, M.D., Professor and Head of the Department of Obstetrics & Gynecology, Northwestern University Medical School; Chief of the Gynecological Service, Passavant Memorial Hospital, Chicago. 380 pages with 222 original illustrations. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$5.00.

This is not as large as many of the textbooks on the subject but the author states that it contains all that is of vital importance in gynecology. There are numerous very excellent illustrations and those which accompany the descriptions of operative procedures have been very carefully prepared. The work is largely a presentation of the author's observations and experience.

Textbook of Medicine. Edited by Russell L. Cecil, A.B., M.D., Sc.D., Assistant Professor of Clinical Medicine in Cornell University; Assistant Visiting Physician in Bellevue Hospital, New York City. And Associate Editor for Diseases of the Nervous System, Foster Kennedy, M.D., F.R.S.E., Professor of Neurology in Cornell University; Head of Neurological Department, Bellevue Hospital. Second Edition, Revised and Entirely Reset. 1,592 Pages. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$9.00.

A new edition of this textbook is well worth noticing. The original text was published four years ago and was one of the outstanding textbooks on internal medicine. Some changes have been made in the list of contributors necessitated by the death of Nichols, Noguchi, Phillips, Young and Zingher. The names of Drs. Strong, Muller, Park, Irons, Francis and Ditmars have been added. Several new chapters have also been added to the contributions of others.

Legal Medicine and Toxicology. By Ralph W. Webster, M.D., Ph.D., Late Clinical Professor of Medicine (Medical Jurisprudence) in Rush Medical College, University of Chicago, Chicago, Ill. 862 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$8.50.

This is a subject that deserves more thorough study than most of us are willing to give it. Men in the practice of medicine are frequently asked for in-

formation in which some important legal question may be involved. After the usual course in school the subject of legal medicine rarely interests any of us. This work by Webster has been very carefully prepared and is very comprehensive.

—R—

Three Hundred Years of the Cinchonas In Medicine

The exact date of the introduction of the use of cinchona bark into medicine is somewhat uncertain. Its introduction into medicine dates from about 1630: in 1630 Juan Lopez Canizares was the first to demonstrate the use of the bark of the cinchona tree in the treatment of malaria. Quinine itself was isolated more than a century ago by Caventon and Pelletier. Quinine is commonly described as a protoplasmic poison and it is alleged to produce its effect in the body because of this property; the action being strongest on undifferentiated protoplasm. The comparative safety in the use of the drug is indicated by the fact that fatalities from its use have been exceedingly few. The excellent virtues of the alkaloid in modern medicine remains in its selective toxicity to undifferentiated protoplasm, notably to the plasmodia of malaria. Quinine is part of the "standard" treatment of malaria. Osler said many years ago that the physician who at this day cannot treat malarial fever successfully with quinine should abandon the practice of medicine. (J.A.M.A., Nov. 1, '30.)

—R—

Intoxicating Effect of Acetylsalicylic Acid and Coca Cola

A physician reports that young people in his community are using from 15 to 20 grains of acetylsalicylic acid (aspirin) dissolved in the soft drink Coca Cola, as an intoxicating beverage. The effects are due chiefly to central depression caused by the acetylsalicylic acid fortified possibly by a direct central stimulant action of caffeine and other constituents present in Coca Cola. The actions of acetylsalicylic acid are similar to those of small doses of alcohol, or of a weak alcoholic beverage or of the barbital or bromides. When acetylsalicylic acid is taken with a beverage like Coca Cola, advertised for its exhilarating ef-

fects, which may be caused by a direct central stimulation by caffeine or other constituents of the latter, it is easy to see how the effects of one can be fortified by the other. The continued use of such a medicated beverage may result in undesirable effects of the same general nature as those of narcotic habituation. Here is a most insidious evil, the reinforcement of a popular and highly advertised beverage by a well advertised drug, both long suspected of dangerous tendencies. (J.A.M.A., Nov. 1, '30.)

—R—

Uroselectan

The Council on Pharmacy and Chemistry publishes a preliminary report on sodium 2-oxo-5-iodo-pyridine-N-acetate (also designated as sodium 5-iodo-2-pyridon-N-acetate) a new substance for use in the radiographic visualization of the urinary tract which was introduced under the name Uroselectan. The Council reports that the product is a definite chemical substance which promises to be an advance in the radiographic visualization of the urinary tract, though its indications, advantages and limitations are at the present time not fully established. The Council considers the product suitable for experimental use by those who are versed in the technique of urologic examinations. It publishes a concise and carefully considered statement of the introduction of the drug and the evidence for its use, prepared for the Council by Drs. Braasch and Bumpus. (J.A.M.A., Nov. 8, '30.)

—R—

REPRINTS

Reprints of original articles will be furnished the authors at the following rates, if the order for same is received within fifteen days after the Journal is mailed. These prices are based on the number of pages of the Journal the article occupies:

Three pages or less, first 100, \$9.00; additional 100's, \$2.50. Four pages, \$12.00; add. 100's, \$3.00. Five pages, \$15.00; add. 100's, \$4.00. Six pages, \$18.00; add. 100's, \$5.00. Seven pages, \$21.00; add. 100's, \$6.00. Eight pages, \$24.00. add. 100's, \$7.00.

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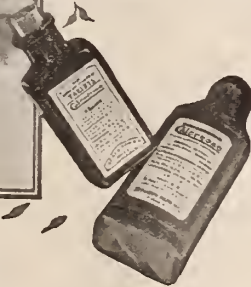
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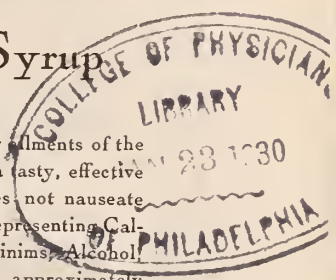
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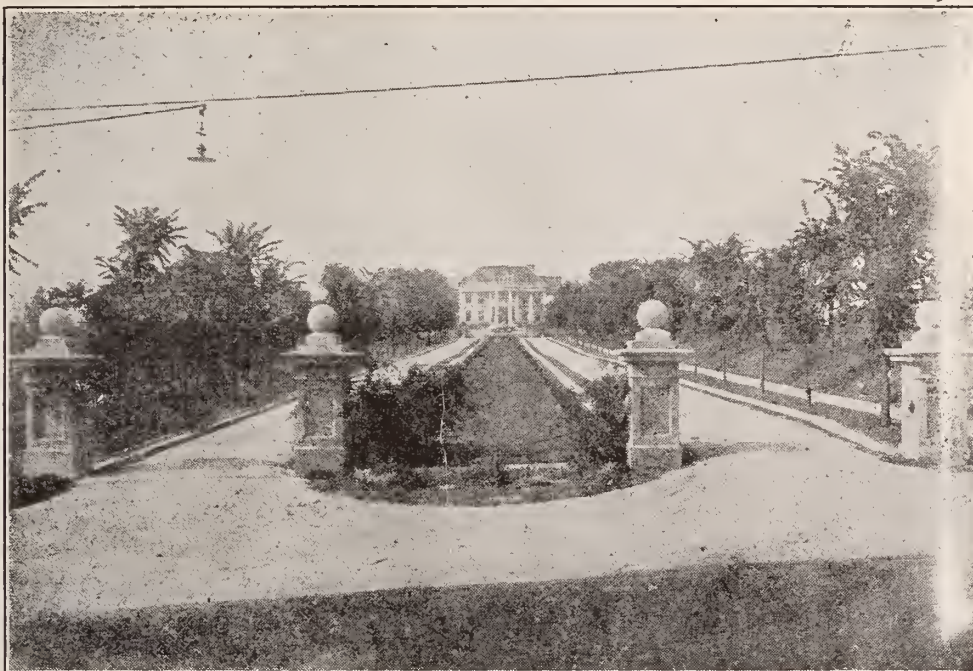
¹J. Biol. Chem., 76:2. ²Ibid., 66:451.

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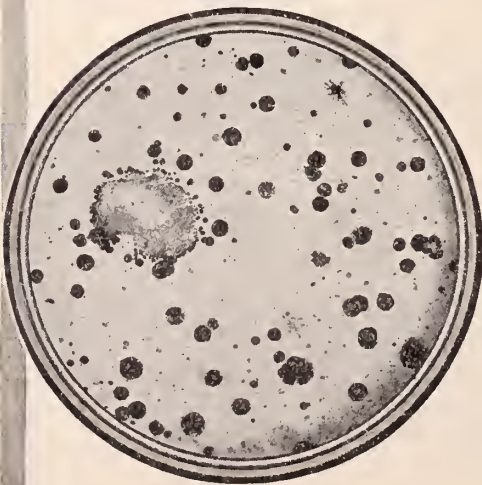
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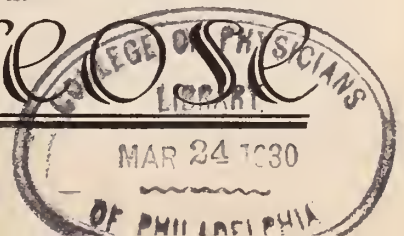
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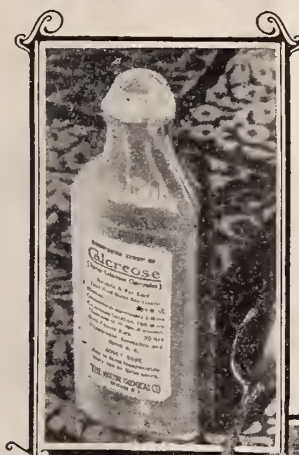
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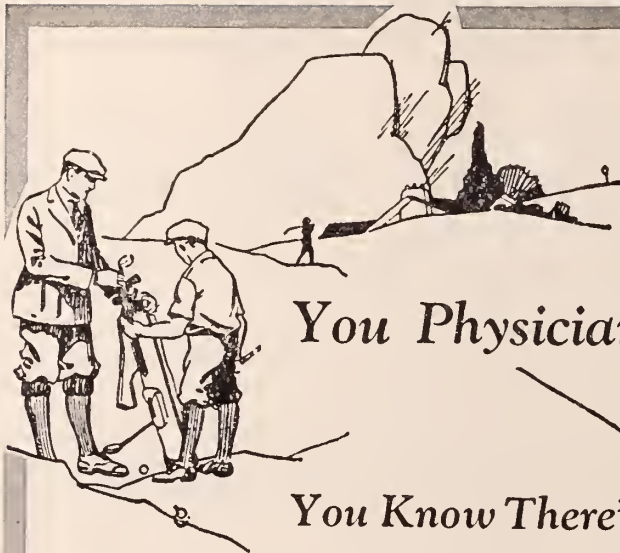
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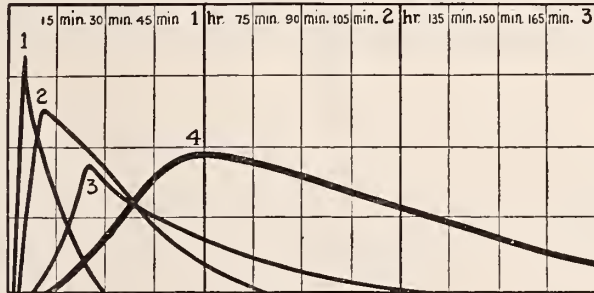
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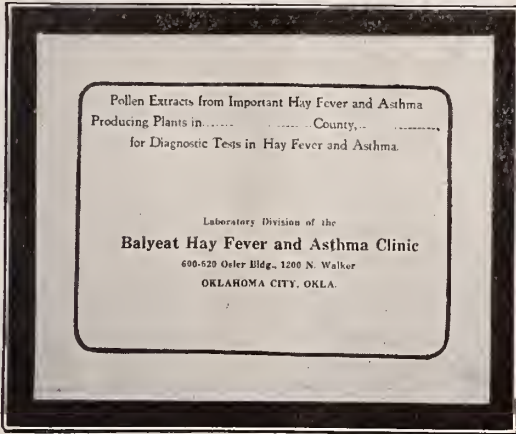
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EVERY PHYSICIAN

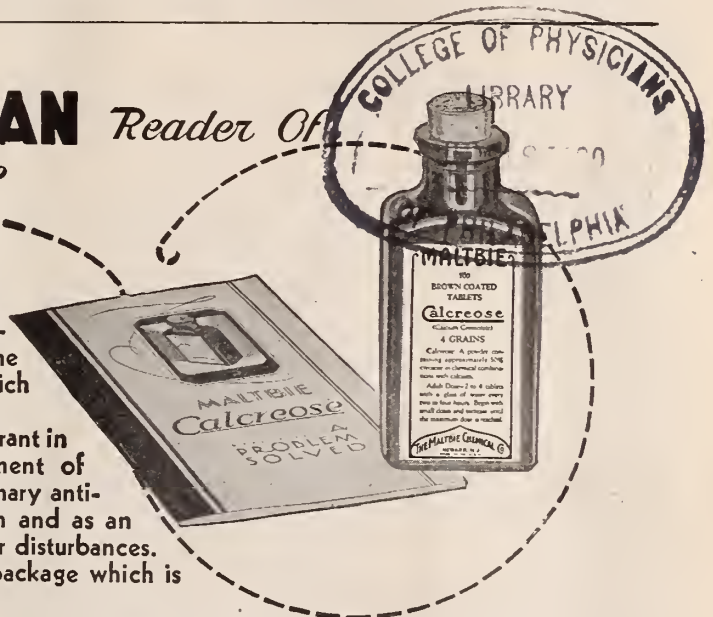
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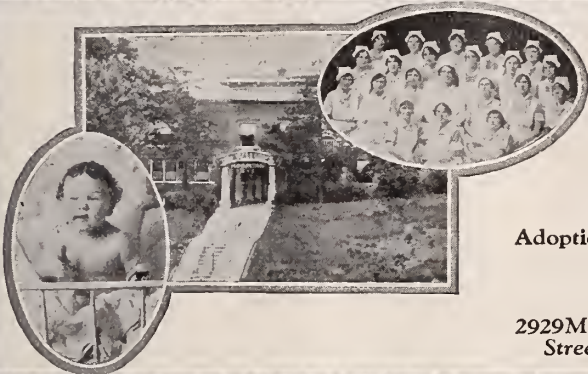
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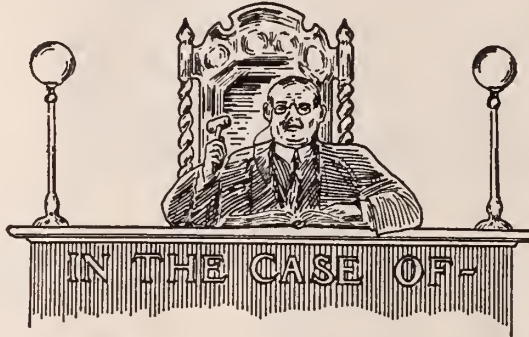


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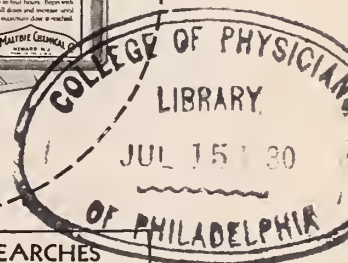
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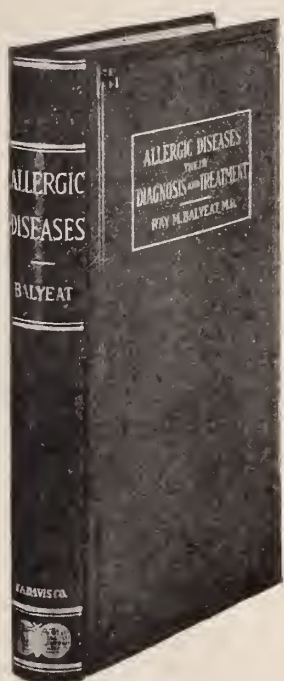
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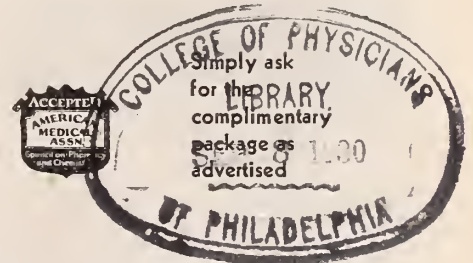
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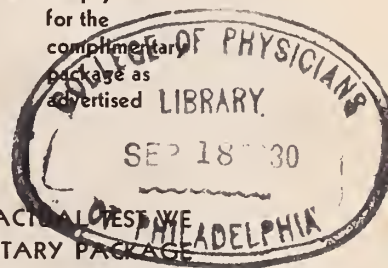
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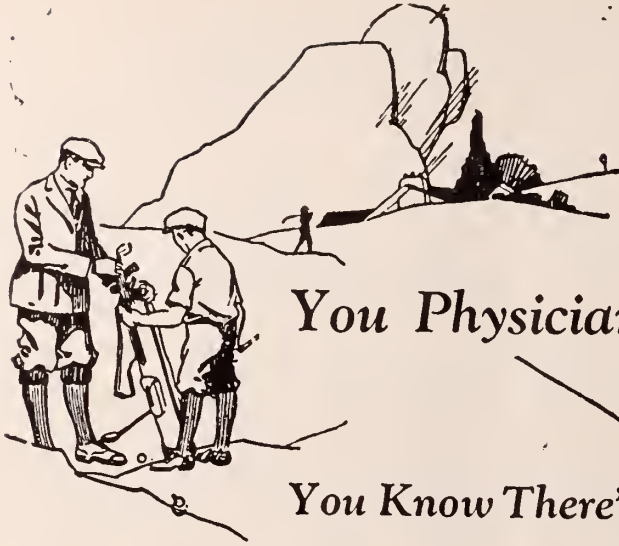
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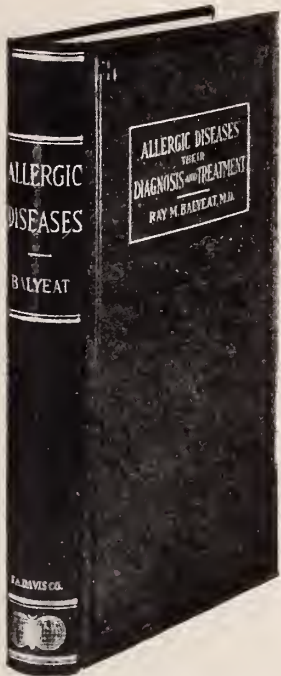
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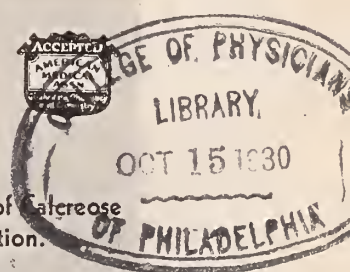
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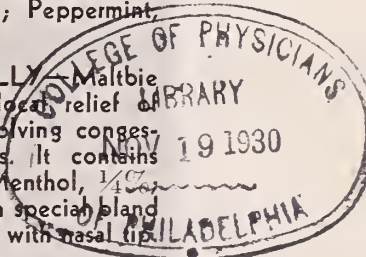
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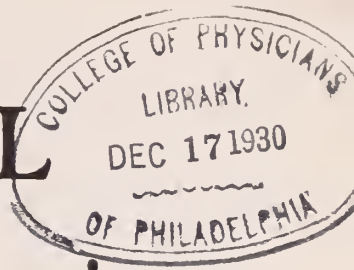
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WALLACE 1/1	LOGAN 2/2	GOVE 3/4	TREGO 2/2	ELLIS 15/16	RUSSELL 7/8	LINCOLN 8/8	OTTAWA 8/11	CLAY 14/16	GEARY 9/16	SHAWNEE 112/131	JEFFERSON 9/15	DOUGLAS 31/49
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